Overview

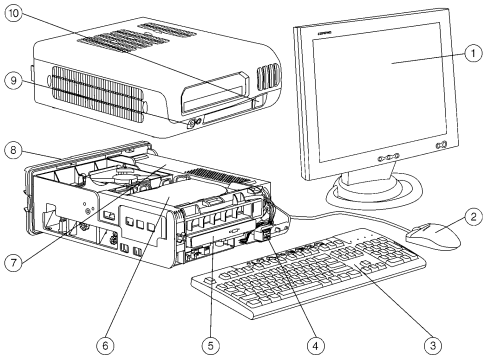
What's New

New e-pc form factor

- Intel® 845G chipset
- 400-MHz Front Side Bus
- DDR Synch Dram Memory
- USB 2.0
- Slimline Bay
- Front and rear port control system
- Integrated Intel PRO/100 VE NIC
- Integrated audio (no internal speaker)
- Integrated Intel Extreme Graphics - 4X AGP

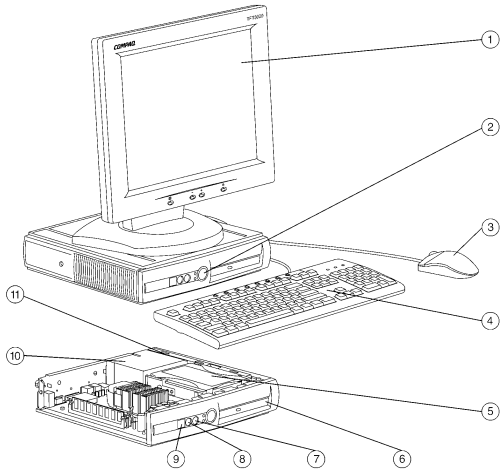
At A Glance

- Intel®Pentium® 4 and Celeron™ processors
- 400- and 533-MHz Front Side Bus
- SMART III Ultra/ATA Hard Drives
- Integrated audio with internal speaker
- Integrated Intel PRO/100 VM NIC
- Standard MultiPort for optional Wireless or Bluetooth connectivity (Ultra-slim Desktop)
- Optional MultiBay Drive Adapter (Convertible Minitower and Small Form Factor)
- Intelligent Manageability
- Energy Star compliant with energy-saving features
- Protected by Compaq Services, including a 3-3-3, standard warranty. Terms and conditions vary by country. Certain restrictions and exclusions apply.



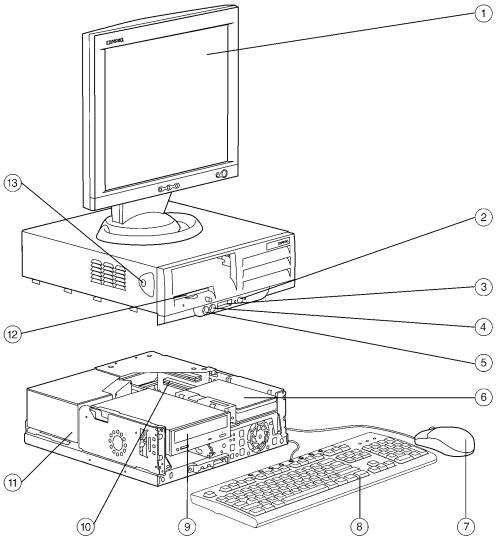
e-pc Desktop

1. TFT Monitor (sold separately)
2. USB 2-Button Scroll Mouse
3. USB Easy Access Keyboard
4. 2 USB Connectors
5. Slimline Bay
6. SMART III Ultra ATA/100 Hard Drive
7. 145-Watt Power Supply
8. Headphone and Microphone Connectors (back of unit)
9. Dual-State Power Button
10. USB Port Lock



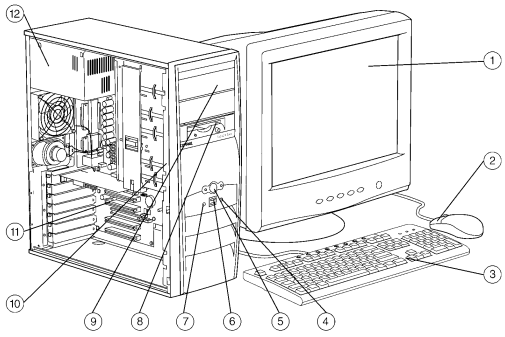
Ultra-slim Desktop

1. TFT Monitor (sold separately)
2. Dual-State Power Button
3. USB 2-Button Scroll Mouse
4. USB Easy Access Keyboard
5. SMART III Ultra ATA/100 Hard Drive
6. Multibay
7. Headphone Connector
8. Microphone Connector
9. USB Connector
10. 50-Watt Power Supply
11. Multiport



Small Form Factor

1. TFT Monitor (sold separately)
2. Dual-State Power Button
3. USB Connectors
4. Headphone Connector
5. Microphone Connector
6. SMART III Ultra ATA/100 Hard Drive
7. 2-Button Scroll Mouse
8. Easy Access Keyboard
9. 48x CD-ROM Drive
10. Expansion Slots
11. 175-Watt Power Supply
12. 1.44-MB Diskette Drive
13. Quick Release Cover Latch



Convertible Minitower

1. CRT Monitor (sold separately)
2. 2-Button Scroll Mouse
3. Easy Access Keyboard
4. Microphone Connector (optional)
5. Dual-State Power Button
6. USB Connector (optional)
7. Headphone Connector (optional)
8. 1.44-MB Diskette Drive
9. 48x CD-ROM Drive
10. SMART III Ultra ATA/100 Hard Drive
11. Expansion Slots
12. 220-Watt Power Supply

Standard Features – Select Models

Compaq Evo D510 Models with Intel 845G Chipset

All D510's come with:

Integrated Intel Extreme graphics
Integrated Intel PRO/100 VM NIC
Integrated Intel PRO/100 VE NIC (e-pc only)
Integrated Intel Audio

Model Key

Example: **D51S/P2.0/20/k/256c/n**

D51S	D510 Small Form Factor
D51C	D510 Convertible Minitower
D51U	D510 Ultra-Slim Desktop
D51U	D510 e-pc
P2.0	P4 2.0Ghz processor (c = Celeron)
20	20-GB hard drive
K	XP Professional
X	XP Home
P	XP Pro/2K dual install
2	Win 2K
256	Memory amount
C	CD ROM
N	NIC

Small Form Factor

470034-606	D51S/C1.7/20/p/128c/n
470034-608	D51S/P1.8/20/p/128c/n
* 470034-607	D51S/P1.8/20/p/256c/n
470034-609	D51S/P2.0/20/p/128c/n
* 470034-611	D51S/P2.0/40/p/256c/n
**470042-662	D51S/P2.0/20/x/256c/n
* 470042-762	D51S/P2.4/40/k/256c/n
470043-211	D51S/P2.4/40/2/256c/n
**470042-809	D51S/P2.5/40/k/256c/n

Convertible Minitower

470033-803	D51C/P1.8/20/p/128c/n
*470033-806	D51C/P1.8/20/p/256c/n
*470033-811	D51C/P2.0/40/p/256c/n
*470042-527	D51C/P2.4/40/k/256c/n
470043-201	D51C/2.4/40/2/256c/n
**470042-584	D51C/2.5/40/k/256c/n

Ultra-slim Desktop

470033-894	D51U/P1.7/20/p/128/n
*470033-789	D51U/P1.7/20/p/256/n
470043-408	D51U/P1.9/20/k/128/n (available late Sept '02)
*470043-542	D51U/P1.9/20/k/256/n (available late Sept '02)
470044-122	D51U/P1.9/20/2/256/n (available late Sept '02)
**470043-688	D51U/P1.9/20/x/256/n (available late Sept '02)

e-pc

470041-557	D51E/C1.8/20/k/128c/n
*470041-561	D51E/P2.0/20/k/256c/n
**470041-559	D51E/P2.0/20/x/256c/n
*470041-563	D51E/P2.4/40/k/256c/n

* denotes a global sku
** denotes a global sku that will not be stocked in the channel but is available via HP Direct

Standard Features – Standard Components

Compaq Evo D510 Models with Intel 845G Chipset

Processor and Speed *One of the following*	**Intel Celeron Processors** with 400-MHz Front Side Bus 1.7-GHz (e-pc, CMT and SFF only) 1.8-GHz (e-pc only)	**Standard L2 Cache**	128-KB Integrated ECC
	Intel Pentium 4 Processors with 400-MHz Front Side Bus 1.8-GHz (CMT and SFF only) 1.9-GHz (USDT only)	**Standard L2 Cache**	256-KB Integrated ECC
	Intel Pentium 4 Processors with 400-MHz Front Side Bus 1.7-GHz (USDT only) 1.9-GHz (USDT only) 2.0-GHz (CMT, SFF and e-pc only) 2.4-GHz (e-pc only)	**Standard L2 Cache**	512-KB Integrated ECC
	Intel Pentium 4 Processors with 533-MHz Front Side Bus 2.26-GHz (CMT and SFF only) 2.4-GHz (CMT and SFF only) 2.53-GHz (CMT and SFF only)	**Standard L2 Cache**	512-KB Integrated ECC
Hard Drives	20-GB 7200 rpm SMART III Ultra ATA/100 40-GB 7200 rpm SMART III Ultra ATA/100		
Standard Memory *One of the following*	128-MB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 128) 256-MB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 256)		
Removable Storage	1.44-MB Diskette Drive		
Optical Storage	48X CD-ROM Drive (CMT, SFF and USDT only) Slimline 24X CD-ROM Drive (e-pc only)		
Keyboard	PS/2 Easy Access Keyboard (CMT and SFF only) USB Easy Access Keyboard (USDT and e-pc only)		
Mouse	PS/2 2-Button Scroll Mouse (CMT and SFF only) USB 2-Button Scroll Mouse (USDT and e-pc only)		
Audio	Integrated Intel Audio with Premier Internal Speaker (internal speaker not included with e-pc)		
NIC	Integrated Intel PRO/100 VM Network Connection Integrated Intel PRO/100 VE Network Connection (e-pc only)		
Graphics	Intel Extreme Graphics (integrated with Intel 845G chipset)		
Operating System *One of the following*	Microsoft Windows 2000 SP2 Microsoft Windows XP Professional Microsoft Windows XP Home		
Intelligent Manageability	Yes. For information about Intelligent Manageability visit: http://www.compaq.com/im		

Standard Features – Custom Components

Compaq Evo D510 Models with Intel 845G Chipset

Processor and Speed *One of the following*	**Intel Celeron Processors** with 400-MHz Front Side Bus 1.7-GHz (CMT, SFF and e-pc only) 1.8-GHz (CMT, SFF and e-pc only)	**Standard L2 Cache**	128-KB Integrated ECC
	Intel Pentium 4 Processors with 400-MHz Front Side Bus 1.7-GHz (CMT and SFF only) 1.8-GHz (CMT and SFF only) 1.9-GHz (CMT and SFF only)	**Standard L2 Cache**	256-KB Integrated ECC
	Intel Pentium 4 Processors with 400-MHz Front Side Bus 1.7-GHz (USDT only) 1.8-GHz (e-pc only) 1.9-GHz (USDT, CMT and SFF only) 2.0-GHz (e-pc, CMT and SFF only) 2.2-GHz (e-pc only) 2.4-GHz (e-pc only) 2.5-GHz (e-pc only) 2.6-GHz (e-pc only)	**Standard L2 Cache**	512-KB Integrated ECC
	Intel Pentium 4 Processors with 533-MHz Front Side Bus 2.26-GHz (CMT and SFF only) 2.4-GHz (CMT and SFF only) 2.53-GHz (CMT and SFF only) 2.66-GHz (CMT and SFF only) – late Sept '03 availability 2.8-GHz (CMT and SFF only) – late Sept '03 availability	**Standard L2 Cache**	512-KB Integrated ECC
Hard Drives	20-GB 5400 rpm SMART III Ultra ATA/100 (e-pc only) 20-GB 7200 rpm SMART III Ultra ATA/100 40-GB 5400 rpm SMART III Ultra ATA/100 40-GB 7200 rpm SMART III Ultra ATA/100 80-GB 5400 rpm SMART III Ultra ATA/100 80-GB 7200 rpm SMART III Ultra ATA/100 36-GB 10,000 rpm Ultra3 SCSI (CMT and SFF only) Adaptec 29160 SCSI Controller (CMT and SFF only)		
Standard Memory *One of the following*	128-MB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 128) 256-MB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 256) 384 – MB DDDR Synch Dram PC2100 (266-MHz) Non ECC (1 X 256, 1 X128) 512-MB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 512) 1-GB DDR Synch Dram PC2100 (266-MHz) Non ECC (1 x 1024)		
Removable Storage	1.44-MB Diskette Drive (not available on e-pc) MultiBay Drives (Requires Multibay Drive Adaptor to use)* (not available on e-pc) USB Disk-on-Key		
Optical Storage	48X CD-ROM Drive (available on e-pc via USB option kit) 40X CD-RW Drive (not available on e-pc) 16X DVD-ROM Drive (reads +/- RW) (not available on e-pc)		

Note: * Multibay Drive Adaptor is standard in Ultra-slim Desktop, optional on Convertible Minitower and Small Form Factor via MultiBay Drive Adapter.

Standard Features – Custom Components

Compaq Evo D510 Models with Intel 845G Chipset

Slimline Optical Storage *(e-pc only)*	Slimline 24X CD-ROM Drive (e-pc only) Slimline 8X DVD-ROM Drive with RAM Read (e-pc only) Slimline 16X CD-RW Drive (e-pc only) Slimline 16X Combo DVD-ROM and CD-RW Drive (e-pc only)
MultiBay Drives *(not available on e-pc)*	MultiBay 24X CD-ROM Drive MultiBay 8X DVD-ROM Drive with RAM Read MultiBay 16X CD-RW Drive MultiBay 16X Combo DVD-ROM and CD-RW Drive MultiBay 20-GB Hard Drive
Keyboard	PS/2 Easy Access Keyboard (not available on e-pc) USB Easy Access Keyboard USB Smart Card Keyboard
Mouse	PS/2 2-Button Scroll Mouse (not available on e-pc) USB 2-Button Scroll Mouse
Miscellaneous	Legacy Module for Ultra-slim Desktop supports parallel, serial, PS/2 keyboard and PS/2 mouse ports. Legacy cable USB to serial and USB to parallel (e-pc only)
Audio	Integrated Intel Audio with Premier Internal Speaker (internal speaker not included with e-pc)
Modem	Lucent V.90 56K Win Modem (Convertible Minitower and Small Form Factor) V.92 56K USB Modem (Ultra-slim Desktop only)
NIC	Integrated Intel PRO/100 VM Network Connection Integrated Intel PRO/100 VE Network Connection (e-pc only) 3COM 3C905C-TX Network Connection Intel PRO/100 S Management Adapter Broadcom NetXtreme Based 10/100/1000 Management Gb Adapter
Wireless Communications	Bluetooth MultiPort Module (USDT only) 802.11b MultiPort Module (USDT only)
Graphics	Intel Extreme Graphics (integrated with Intel 845G chipset) NVIDIA GeForce2 MX200 64-MB with DVI-I (CMT and SFF only) NVIDIA Quadro4 200 NVS (not available on e-pc) NVIDIA Quadro4 400 NVS (not available on e-pc) Intel DVI ADD Card (not available on e-pc)
Operating System *One of the following*	Microsoft Windows 2000 SP2 Microsoft Windows XP Professional Microsoft Windows XP Home

Note: Microsoft Windows NT 4.0 and Windows 98 SE are not available on system, but Softpaq drivers are downloadable from Compaq.com. (not available on e-pc)

Standard Features – Custom Components

Compaq Evo D510 Models with Intel 845G Chipset

Software	Norton Internet Security/Norton AntiVirus 2002 Microsoft Office XP Small Business Edition Microsoft Office XP Professional Microsoft Office XP Personal Roxio CD Creator Intervideo DVD Player
Intelligent Manageability	Yes. For information about Intelligent Manageability visit: http://www.compaq.com/im

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

Base Unit Contents	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
	Chassis	Chassis	Chassis	Chassis
	Intel processor / heatsink	Intel processor / heatsink	Intel processor / heatsink	Intel processor / heatsink
	Systemboard with Intel 845G Chipset with Integrated 4X AGP	Systemboard with Intel 845G Chipset with Integrated 4X AGP	Systemboard with Intel 845G Chipset with Integrated 4X AGP	Systemboard with Intel 845G Chipset with Integrated 4X AGP
	ATA Cable	ATA Cable	2 ATA Cables	2 ATA Cables
	Slimline Bay	Multibay and Multiport	Diskette with Cable	Diskette with Cable
	Quick Setup Poster	Quick Setup Poster	Quick Setup Poster	Quick Setup Poster
	None	Product Documentation on CD	Product Documentation on CD	Product Documentation on CD
	Compaq OS CD.	Compaq OS CD.	Compaq OS CD.	Compaq OS CD.
	Compaq Restore CD	Compaq Restore CD	Compaq Restore CD	Compaq Restore CD
	Power Cord	Power Cord	Power Cord	Power Cord
	Keyboard (USB)	Keyboard (USB)	Keyboard (PS/2)	Keyboard (PS/2)
	Mouse (USB)	Mouse (USB)	Mouse (PS/2)	Mouse (PS/2)
	One Security Screw Tamper Resistant T15 Security Wrench, Port Control System	Tower Stand, Two Security Screws, Tamper Resistant T15 Security Wrench		

Expansion Capability	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Memory Expansion Slots (Non-ECC)	2 DIMM's - DDR Synch Dram PC2100 (266-MHz)	2 DIMM's - DDR Synch Dram PC2100 (266-MHz)	2 DIMM's - DDR Synch Dram PC2100 (266-MHz)	2 DIMM's - DDR Synch Dram PC2100 (266-MHz)
Maximum Memory	2-GB	2-GB	2-GB	2-GB

Note: Intel 845G Chipsets support DDR Synch Dram PC2100 (266-MHz) and DDR Synch Dram PC1600 (200-MHz) Non-ECC Memory only. Compaq PCs ship with DDR Synch Dram PC2100 (266-MHz) Non-ECC Memory.

Slots				
PCI	None	None	2 full-height half-length slots on riser board.	3 full-height slots on PCA (2 additional slots available via optional PCI Extender Card)
AGP	None	None	1 AGP 4X, 1.5V (Low Profile)	1 AGP 4X, 1.5V
Bays	Total Bays = 2	Total Bays = 2	Total Bays = 3	Total Bays = 5
Internal	(1) 3.5 inch ATA Hard Drive	(1) 3.5 inch ATA Hard Drive	(1) 3.5 inch ATA Hard Drive	(2) 3.5 inch ATA Hard Drive
External:	(1) IDE for Slim ODD	(1) MultiBay	(1) 5.25 inch half-height	(2) 5.25 inch half-height
Floppy	None	None	(1) 3.5 inch Diskette Drive	(1) 3.5 inch Diskette Drive
Wireless Support	None	MultiPort Slot supports optional 802.11b & Bluetooth Multiport modules	PCI card or external USB	PCI card or external USB
USB Support	(2) Front USB 2.0 Port	(1) Front USB 2.0 Port	(2) Front USB 2.0 Ports	(2) Front USB 2.0 Ports (optional)
	(4) Rear USB 2.0 Ports	(4) Rear USB 2.0 Ports	(2) Rear USB 2.0 Ports	(4) Rear USB 2.0 Ports

Interfaces (Legacy)	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Parallel Port	Optional with USB adapter	Optional *	1	1
Serial Port	Optional with USB adapter	Optional *	2	2
PS/2 Keyboard	None	Optional *	1	1
PS/2 Mouse	None	Optional *	1	1
VGA Adapter	One	1	1	1

Note: Optional Legacy Module for Ultra-slim Desktop supports parallel, serial, PS/2 Keyboard and PS/2 mouse ports.

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

Chassis Dimensions (H x W x D)	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Centimeters	9.7 x 25 x 31 centimeters	7 x 32 x 33 centimeters	9.9 x 33.3 x 36.6 centimeters	44.8 x 16.8 x 42.7 centimeters
Inches	3.8 x 9.8 x 12.2 inches	2.72 x 12.4 x 12.83 inches	3.9 x 13.1 x 14.4 inches	17.65 x 6.6 x 16.8 inches
Chassis Weight				
System Weight	4.5 kilograms/9.9 pounds	5.04 kilograms/11.2 pounds	9.1 kilograms/20 pounds	11.8 kilograms/26.0 pounds
Weight Supported	Will not support monitor	45.5 kilograms/100 pounds	45.5 kilograms/100 pounds	45.5 kilograms/100 pounds

System Memory	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Type/Speed	DDR Synch Dram PC2100 (266-MHz) Non-ECC	DDR Synch Dram PC2100 (266-MHz) Non-ECC	DDR Synch Dram PC2100 (266-MHz) Non-ECC	DDR Synch Dram PC2100 (266-MHz) Non-ECC
Maximum Memory	2-GB*	2-GB*	2-GB*	2-GB*
Memory Parity	Not Needed for non-ECC	Not Needed for non-ECC	Not Needed for non-ECC	Not Needed for non-ECC
ECC Memory	Not Supported by chipset	Not Supported by chipset	Not Supported by chipset	Not Supported by chipset
Serial Presence Detect Support	Supported	Supported	Supported	Supported

Note: Maximum memory of 2-GB DDR Synch Dram can be achieved when 1-GB memory modules become available.

Supported Features	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Processor	Intel Pentium 4 Socket N - 478	Intel Pentium 4 Socket N – 478 (low power only)	Intel Pentium 4 Socket N - 478	Intel Pentium 4 Socket N - 478
CPU Bus Speed Supported	400-MHz	400-MHz	400-MHz / 533-MHz FSB	400-MHz / 533-MHz FSB
Memory Type Supported	DDR (ECC not supported by Chipset)	DDR (ECC not supported by Chipset)	DDR (ECC not supported by Chipset)	DDR (ECC not supported by Chipset)
Memory Speed Supported	DDR Synch DRAM PC1600 (200-MHz) Non-ECC Not qualified for PC2100 (266-MHz)	DDR Synch DRAM PC1600 (200-MHz) and PC2100 (266-MHz) Non-ECC	DDR Synch DRAM PC1600 (200-MHz) and PC2100 (266-MHz) Non-ECC	DDR Synch DRAM PC1600 (200-MHz) and PC2100 (266-MHz) Non-ECC
SPD Support	Yes	Yes	Yes	Yes
Hard Drive Interfaces Supported	SMART III Ultra ATA/100/66/33	SMART III Ultra ATA/100/66/33	SMART III Ultra ATA/100/66/33	SMART III Ultra ATA/100/66/33
Hard Drive Controller (PCI) Supported	SMART III Ultra ATA/100/66/33	SMART III Ultra ATA/100/66/33	SMART III Ultra ATA/100/66/33	SMART III Ultra ATA/100/66/33

Intel® Pentium® 4	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Coprocessor	Integrated	Integrated	Integrated	Integrated
CPU Socket Type/Number	Socket N 478 pin	Socket N 478 pin	Socket N 478 pin	Socket N 478 pin
CPU Package	FC-PGA2	FC-PGA2	FC-PGA2	FC-PGA2
Front Side Bus Speed	400-MHz	400-MHz	400-MHz or 533-MHz	400-MHz or 533-MHz
Standard L2 Cache	256-KB ECC or 512-KB ECC depending on processor speed	512-KB ECC	256-KB ECC or 512-KB ECC depending on processor speed	256-KB ECC or 512-KB ECC depending on processor speed
L2 Cache Architecture / Speed	Full core clock speed	Full core clock speed	Full core clock speed	Full core clock speed
Cache Upgradeable To	Not upgradeable - Integrated into Processor	Not upgradeable - Integrated into Processor	Not upgradeable - Integrated into Processor	Not upgradeable - Integrated into Processor

Intel® Celeron™	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Coprocessor	Integrated	N/A	Integrated	Integrated
CPU Socket Type/Number	Socket N 478 pin	N/A	Socket N 478 pin	Socket N 478 pin
CPU Package	FC-PGA2	N/A	FC-PGA2	FC-PGA2
Front Side Bus Speed	400-MHz	N/A	400-MHz	400-MHz
Standard L2 Cache	128-KB ECC depending on processor speed	N/A	128-KB ECC depending on processor speed	128-KB ECC depending on processor speed
L2 Cache Architecture / Speed	Full core clock speed	N/A	Full core clock speed	Full core clock speed
Cache Upgradeable To	Not upgradeable - Integrated into Processor	N/A	Not upgradeable - Integrated into Processor	Not upgradeable - Integrated into Processor

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

System Board	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Architecture	P4 / Legacy Free / AGP 4X (Integrated Only)	P4 / Legacy Free / AGP 4X (Integrated Only)	P4 / PCI / AGP 4X	P4 / PCI / AGP 4X
Chipset	Intel 845G Chipset	Intel 845G Chipset	Intel 845G Chipset	Intel 845G Chipset
I/O Controller	None	Super I/O 3	Super I/O 3	Super I/O 3
System Board Form Factor	Custom	Custom USDT	Custom SFF	Standard uATX + optional PCI Extender Board
Processor Socket - 478 Pin ZIF	Yes	Yes	Yes	Yes
DIMM Connectors (2.5V)	Yes (2)	Yes (2)	Yes (2)	Yes (2)
AGP Connector (1.5V)	No	No	Yes (1)	Yes (1)
Integrated AGP Graphics	Yes	Yes	Yes	Yes
PCI Connectors (5.0V)	None	None	Yes (2 on Riser)	Yes (3 on motherboard + 2 additional via the optional PCI Extender Card)
Flash ROM	Yes	Yes	Yes	Yes
Audio (Integrated Intel)	Yes	Yes	Yes	Yes
CD ROM IN (Audio)	No	No	Yes	Yes
Clear CMOS Button	Yes	Yes	Yes	Yes
CPU Fan Header	No	No	No	Yes
Chassis Fan Header	Yes	No	Yes	Yes
Chassis Speaker Header	No	Yes	Yes	Yes
CMOS Battery Holder - Lithium	Yes	Yes	Yes	Yes
Hood Lock Header	No	No	Yes	Yes
Hood Sense Header	No	No	Yes (Switch on Riser)	Yes
Multibay Header	No	Yes	Yes	Yes
Multport Header	No	Yes	No	No
NIC (PRO/100 VM)	Yes (PRO/100 VE)	Yes	Yes	Yes
Wake-On-Lan®	Yes	Yes	Yes	Yes
Alert-On-LAN®	No	Yes	Yes	Yes
Power Supply Header	Yes	Yes	Yes	Yes
Power Switch, Power LED & Hard Drive LED Header	No (Directly mounted on motherboard)	Yes	No (on system board)	Yes
Password Clear Header	Yes	Yes	Yes	Yes
Riser Connector	No (No PCI Connectors)	No (No PCI Connectors)	Yes	No (not needed – PCI connectors on system board)
SCSI LED Header	No	No	Yes (on Riser)	Yes
Speaker Header	No	Yes	Yes	Yes
Boards that connect to System Board	None	Multibay (Standard)	Solenoid Lock PCB (Optional)	Solenoid Lock PCB (Optional)
		Mutiport (USB Bus) (Standard)	Riser Board – 2 PCI slots (standard)	PCI Extender Board – 2 additional PCI slots (optional)
		Power Button, Hard Drive & Power LEDs, USB, Headphone, Microphone board (Standard)	Multibay Drive Adapter (Optional)	Front I/O Board – USB, Microphone and Headphone (Optional)
		Legacy Module (Parallel & Serial Port, PS/2 Keyboard & Mouse) (Optional)		Multibay Drive Adapter (Optional)

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

Chassis	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Color	Carbon/Silver	Carbon/Silver	Carbon/Silver	Carbon/Silver
System Board Form Factors Supported	Custom e-pc Desktop	Custom Ultra-slim Desktop	Custom SFF	Standard uATX and Standard ATX
Flash ROM	Yes	Yes	Yes	Yes
Cooling Solutions Supported				
Power Supply Fan (Variable Speed)	Yes	Yes	Yes	Yes
Processor Fan-Heatsink (Variable Speed)	No	No	No	Yes
Chassis Fan	Yes (variable)	No	Yes	Yes
Slots Supported	None	None	2 Full-height, Half-length PCI slots	6 Full-height, Full-length PCI slots
AGP Slot	None	None	1 Low Profile AGP	1 AGP
Front I/O	2 USB	Front Headphone, Microphone and 1 USB Standard	Front Headphone, Microphone, and 2 USB Standard	Front Headphone, Microphone, and 2 USB (option)
Rear I/O	Legacy free, 4 USB, Audio	4 USB, VGA and Legacy Module connector	2 Rear USB	4 Rear USB
Internal Speaker	None	Yes	Yes	Yes
Power Supply	Custom Power Supply with PFC and line select switch	Custom Power Supply - Non-PFC Full Ranging (No line select)	Custom Power Supply – Full-ranging APFC (No line select)	ATX Power Supply – PFC with in 230V mode (115v/230V line switch)
Security Locks Supported	Kensington Cable Lock Provision (Lock not included)	Kensington Cable Lock Provision (Lock not included)	Kensington Cable Lock Provision (Lock not included)	Kensington Cable Lock Provision (Lock not included)
	Hood Cover Security Screw (Cover can be locked using the Security Screw)	Hood Cover Security Screw including Multibay Ejection Lever Security Screw (Cover can be locked using the Security Screw)	Hood Cover Security Loop (Lock not included)	Hood Cover Security Loop (Lock not included)
	Front USB ports can be disabled via F2		Smart Cover Lock (option) – Locking solenoid controlled via F10 setup (failsafe key)	Smart Cover Lock (option) – Locking solenoid controlled via F10 setup (failsafe key)
	Port control system (front and rear ports can be locked)			

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

Interfaces	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
I/O Chip	No	Super IO 3	Super IO 3	Super IO 3
Serial Port	Optional with USB adapter	One w/ optional Legacy Module	Two Serial Ports	Two Serial Ports
Parallel Port	Optional with USB adapter	One w/ optional Legacy Module	One Parallel Port	One Parallel Port
PS/2s	None	2 with optional Legacy Module (One Keyboard and One Mouse)	One Keyboard and One Mouse	One Keyboard and One Mouse
USB (2.0)	6 USB 2.0	5 ports (4 rear/1 front)	4 ports (2 rear/2 front)	4 ports (4 rear/2 optional front)
Infrared Port	No	No	No	No
Network	RJ-45	RJ-45	RJ-45	RJ-45
Keyboard	Yes (USB only)	Yes (USB or PS/2 with Legacy Module)	Yes (PS2)	Yes (PS2)
Mouse	Yes (USB only)	Yes (USB or PS/2 with Legacy Module)	Yes (PS2)	Yes (PS2)
Multibay	No	Yes	CTO Option - Multibay Drive Adapter	CTO Option - Multibay Drive Adapter
Multiport	No	Yes	No	No
Video (VGA)	Yes	Yes	Yes	Yes
Audio	Yes	Yes	Yes	Yes

Power Supply	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Power Supply	Custom Power Supply with PFC and line select switch	Custom Power Supply - Non-PFC Full Ranging (No line select)	Custom Power Supply – Full-ranging APFC (No line select)	ATX Power Supply – PFC with in 230V (115v/230V line switch)
Full Ranging Input (No Line Select Switch)	No	Yes	Yes	No
Active Power Factor Correction (APFC) (Input Current is nearly 1/2 a non-APFC PS)	No	No	Yes	No
Passive Power Factor Correction (PFC)	Yes	No	No	Yes (with line switch set to 230v - No PFC in 115v line switch position)
Operating Voltage Range	90 to 132VAC and 180 to 264VAC	90 to 264VAC (full ranging)	90 to 264VAC (full ranging)	90 to 132VAC, or 180 to 264VAC
Rated Voltage Range	100 to 127 VAC, or 200 to 240VAC	100 to 127 VAC, or 200 to 240VAC	100 to 127 VAC, or 200 to 240VAC	100 to 127 VAC, or 200 to 240VAC
Rated Line Frequency	47-66 Hz	50-60 Hz	50-60 Hz	50-60 Hz
Operating Line Frequency Range	47-66 Hz	47-63 Hz	47-63 Hz	47-63 Hz
Rated Input Current	4A @ 100-127VAC / 2A @ 200-240VAC	1.7A @ 100VAC/0.85A @ 200VAC	2.7A @ 100VAC/1.35A @ 200VAC	6A @ 100VAC/3A @ 200VAC
Maximum Rated Power	145W	50W	175W	220W
Heat Dissipation	Max (223W input): 761 BTU/hr Typical (65W input): 222 BTU/hr Max (223W input): 192 kg-cal/hr Typical (65W input): 56 kg-cal/hr	Max (75W input): 256 BTU/hr Typical (50W input): 171 BTU/hr Max (75W input): 65 kg-cal/hr Typical (50W input): 43 kg-cal/hr	Max (269W input): 920 BTU/hr Typical (65W input): 222 BTU/hr Max (269W input): 232 kg-cal/hr Typical (65W input): 56 kg-cal/hr	Max (338W input): 1061 BTU/hr Typical (65W input): 222 BTU/hr Max (269W input): 267 kg-cal/hr Typical (65W input): 56 kg-cal/hr
PS Fan	50mm fan integrated in power supply - variable speed for optimum acoustics	60mm fan integrated in power supply - variable speed for optimum acoustics	80mm fan integrated in power supply - variable speed for optimum acoustics	92mm fan integrated in power supply - variable speed for optimum acoustics
Processor Fan	None	None	None	Variable speed fan

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

Environmental and Mechanical Engineering Support Center	http://env-webserver.ccm.cpqcorp.net/EMESC/default.htm

Power Conservation 'Energy Saver'	**e-pc**	**Ultra-slim Desktop**	**Small Form Factor**	**Convertible Minitower**
Energy Star Compliant	Yes	Yes	Yes	Yes
Power Management	Yes	Yes	Yes	Yes
Screen Blanking	Yes	Yes	Yes	Yes
Hard Disk 'Idle' Mode	Yes	Yes	Yes	Yes
System Idle Mode	Yes	Yes	Yes	Yes
Cache Memory Power-Down	No	No	No	No
Blue Angel Compliant (<5w in S5--Power Off)	Yes	Yes	Yes	Yes
Power Consumption in ES Mode - Suspend to RAM (S3) (Instantly Available PC)	2.5W	~2W	~2W	~2W
Processor/Cache Memory Power-Down (S3)	Yes	Yes	Yes	Yes
CD-Rom Spins Down when not in use	Yes	Yes	Yes	Yes

ROM Features	**e-pc**	**Ultra-slim Desktop**	**Small Form Factor**	**Convertible Minitower**
Instantly Available PC (Suspend to RAM - S3)	Yes	Yes	Yes	Yes
ROM Based F10 Setup	Yes (through F2)	Yes	Yes	Yes
Remote System Installation via F12 (PXE)	Yes	Yes	Yes	Yes
Failsafe Boot Block ROM	Yes	Yes	Yes	Yes
Emergency ROM Flash Recovery with Video	Yes (no video)	Yes	Yes	Yes
CMOS Archive and CMOS Restore	No	Yes	Yes	Yes
Save and Restore CMOS Setup via Diskette	Yes	Yes	Yes	Yes
Auto Setup when New Hardware Installed	Yes	Yes	Yes	Yes
Serial, Parallel, USB Enable/Disable Port Control	Yes (front USB ports via F2)	Yes	Yes	Yes
Removable Media Write / Boot Control	Yes	Yes	Yes	Yes
Remote Boot from Server	Yes	Yes	Yes	Yes
Network Server Mode	Yes	Yes	Yes	Yes
Power-On Password	Yes	Yes	Yes	Yes
Setup Password	Yes	Yes	Yes	Yes
Memory Change Alert (Requires Insight Management Agent)	No	Yes	Yes	Yes
Thermal Alert (Requires Insight Management Agent)	No (Only non-connected fan is detected)	Yes	Yes	Yes
Cover Removal Alert (Requires Insight Management Agent)	No	No	Yes	Yes, with optional security module
Master Boot Record Security	No	Yes	Yes	Yes
Remote ROM Flash	Yes	Yes	Yes	Yes
Remote Wakeup	Yes	Yes	Yes	Yes
Power Management	Yes	Yes	Yes	Yes
ACPI	Yes	Yes	Yes	Yes
SMBIOS	Yes	Yes	Yes	Yes

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

System Environmental Specs	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Acoustics: Advanced Power Management - On	Idle (HDD spinning but not seeking) = 25 dB (pending final testing with production equipment)	Idle (HDD spinning but not seeking) = 19 dB (pending final testing with production equipment)	Idle (HDD spinning but not seeking) = 26 dB (pending final testing with production equipment)	Idle (HDD spinning but not seeking) = 22 dB (pending final testing with production equipment)
Shock				
Operating (*Using 11ms half-sine shock pulse)	5 G's* (with NO damage being incurred)	5 G's* (with NO damage being incurred)	5 G's*(with NO damage being incurred)	5 G's* (with NO damage being incurred)
Non-Operating (*Using 11ms half-sine shock pulse)	20 G's* (with NO damage being incurred)	20 G's* (with NO damage being incurred)	20 G's* (with NO damage being incurred)	10 G's*, positive and negative directions front to back axis: 20 G's* in all other axes.
Vibration				
Operating	Random vibration at 0.000215 G^2/Hz, 10Hz to 300Hz, (0.25G's nominal).	Random vibration at 0.000215 G^2/Hz, 10Hz to 300Hz, (0.25G's nominal).	Random vibration at 0.000215 G^2/Hz, 10Hz to 300Hz, (0.25G's nominal).	Random vibration at 0.000215 G^2/Hz, 10Hz to 300Hz, (0.25G's nominal).
Non-Operating	Random vibration at 0.0005 G^2/Hz, 10Hz to 500Hz, (0.5G's nominal).	Random vibration at 0.0005 G^2/Hz, 10Hz to 500Hz, (0.5G's nominal).	Random vibration at 0.0005 G^2/Hz, 10Hz to 500Hz, (0.5G's nominal).	Random vibration at 0.0005 G^2/Hz, 10Hz to 500Hz, (0.5G's nominal).
Relative Humidity				
Operating	10% to 90% relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.	10% to 90% relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.	10% to 90% relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.	10% to 90% relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.
Non-operating	5% to 95% relative humidity (Rh), 38.7°C maximum wet bulb temperature, non-condensing.	5% to 95% relative humidity (Rh), 38.7°C maximum wet bulb temperature, non-condensing.	5% to 95% relative humidity (Rh), 38.7°C maximum wet bulb temperature, non-condensing.	5% to 95% relative humidity (Rh), 38.7°C maximum wet bulb temperature, non-condensing.
Altitude Max (un-pressurized)				
Operating	0 to 3,048 meters/10,000 feet - This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1500 ft/min.	0 to 3,048 meters/10,000 feet - This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1500 ft/min.	0 to 3,048 meters/10,000 feet - This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1500 ft/min.	0 to 3,048 meters/10,000 feet - This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1500 ft/min.
Non-operating	0 to 30,000 ft / 9,144 m - Maximum allowable altitude change rate is 1500 ft/min	0 to 30,000 ft / 9,144 m - Maximum allowable altitude change rate is 1500 ft/min	0 to 30,000 ft 9,144 m - Maximum allowable altitude change rate is 1500 ft/min	0 to 30,000 ft 9,144 m - Maximum allowable altitude change rate is 1500 ft/min
Environmental and Mechanical Engineering Support Center (EMESC) - Intranet Web Site only	http://env-webserver.ccm.cpqcorp.net/EMESC/default.htm			

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

Software	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Preinstalled Software				
Windows 3.1	No	No	No	No
Windows 95	No	No	No	No
Windows 98	No	No	No (drivers available on web) Softpaqs Only	No (drivers available on web) Softpaqs Only
Windows NT 4.X	No	No (drivers available on web) Softpaqs Only	No (drivers available on web) Softpaqs Only	No (drivers available on web) Softpaqs Only
Windows 2000 SP2/ Windows XP Pro	No	Yes	Yes	Yes
Windows 2000 SP2	Yes	Yes	Yes	Yes
Windows XP Pro	Yes	Yes	Yes	Yes
Windows XP Home	Yes	Yes	Yes	Yes
Computer Setup Utility	Yes	Yes	Yes	Yes
Diagnostics for Windows	Yes	Yes	Yes	Yes
Microsoft Internet Explorer	Yes	Yes	Yes	Yes

Intelligent Manageability	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Intelligent Manageability Home Page	http://www.compaq.com/im			
Altiris Agents (Aclient, Nsclient)	Yes	Yes	Yes	Yes
Insight Management Agent	Yes	Yes	Yes	Yes
Plug and Play Ready				
Windows 2000	Yes	Yes	Yes	Yes
Windows XP Pro	Yes	Yes	Yes	Yes
Windows XP Home	Yes	Yes	Yes	Yes
Boot Support				
Local Diskette Boot	Yes (Windows 95, Windows 98, DOS) – Requires USB floppy	Yes (Windows 95, Windows 98, DOS) – requires Multibay 1.44 Floppy	Yes (Windows 95, Windows 98, DOS)	Yes (Windows 95, Windows 98, DOS)
Network Boot	Yes	Yes	Yes	Yes
Disk-on-Key Boot	Yes	Yes	Yes	Yes

Initial Configuration and Deployment	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
HP/Compaq Client Manager (free)	Yes	Yes	Yes	Yes
Altiris eXpress Solutions (30-day trial version)	Yes	Yes	Yes	Yes
PC Transplant Pro (30-day trial version)	Yes	Yes	Yes	Yes
System Software Manager	Yes	Yes	Yes	Yes
Insight Manager	Yes	Yes	Yes	Yes
Support Software CD	Yes	Yes	Yes	Yes
Compaq Software Restore CD	Yes	Yes	Yes	Yes

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

Asset Tracking	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Asset Tag	Yes	Yes	Yes	Yes
DIMM Serial Presence Detect	Yes	Yes	Yes	Yes
Hard drive serial number, model, & manufacturer	Yes	Yes	Yes	Yes
Monitor serial number, model & manufacturer	Yes	Yes	Yes	Yes
System serial number, model, & manufacturer	Yes	Yes	Yes	Yes
ROM revision levels	Yes	Yes	Yes	Yes
System board revision level	Yes	Yes	Yes	Yes
Memory Change Alert	No	Yes	Yes	Yes
Ownership Tag	No	Yes	Yes	Yes

Standard Security Features	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Smart Cover Lock	No	No	Optional	Optional
Smart Cover Sensor	No	No	Yes	Optional
Mechanical Hood Security Provision	Yes	Yes	Yes	Yes
Kensington Lock Support	Yes	Yes	Yes	Yes
Cable Lock Provision	Yes	Yes	Yes	Yes
Serial, Parallel, USB Enable/Disable	Yes	Yes	Yes	Yes
Port Control	Yes	No	No	No
Removable Media Write / Boot Control	Yes (Booting from USB device can be disabled by BIOS)	Yes (Booting from USB device can be disabled by BIOS)	Yes (Booting from USB device can be disabled by BIOS)	Yes (Booting from USB device can be disabled by BIOS)
Power-On Password	Yes	Yes	Yes	Yes
Other	Security screw to lock cover, USB ports can be blocked	Security screws to lock MultiBay, cover and legacy module	Hood Cover Security Loop	Hood Cover Security Loop
Setup Password	Yes	Yes	Yes	Yes
F10 Setup Password	Yes	Yes	Yes	Yes
Smartcard Reader	No	No	Optional	Optional
Fingerprint Reader	Optional	Optional	Optional	Optional

System Software Updating	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Product Change Notification	http://www.compaq.com/notification			
Active Update	http://www.compaq.com/activeupdate			
Remote ROM Flash	Yes	Yes	Yes	Yes
Remote Wakeup / Remote Shutdown	Yes	Yes	Yes	Yes
ROM Based Setup (F10) and Start-up Diagnostics	Yes	Yes	Yes	Yes
Support Software CD & WWW Site	Yes	Yes	Yes	Yes

Fault Notification and Recovery	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
SMART Hard Drives, Fault Notification, & Prefailure Warranty	Yes	Yes	Yes	Yes
Proactive Backup	Yes	Yes	Yes	Yes
ATA RAID Controller Option	No	No	No	No
Surge Tolerant Full Ranging Power Supply	Yes	Yes	Yes	Yes
Thermal Sensor	Yes	Yes	Yes	Yes
Ultra ATA Integrity Monitoring (CRC Checking)	Yes	Yes	Yes	Yes

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

Other Features	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
ACPI-Ready Hardware 1.0	Yes	Yes	Yes	Yes
SMBIOS	Yes	Yes	Yes	Yes
Wired for Management Support	Yes	Yes	Yes	Yes
Dual-State Power Button	Yes	Yes	Yes	Yes

Serviceability Features - System	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Dual Color Power LED on Front of Computer	No	Yes (Indicates Normal Operations and Fault Conditions)	Yes (Indicates Normal Operations and Fault Conditions)	Yes (Indicates Normal Operations and Fault Conditions)
Blinking Diagnostic Keyboard LED Codes	No	Yes	Yes	Yes
Diagnostic LED Explanation Table	Diagnostics available through e-buzzer beep codes	Yes (See Illustrated Parts Map at http://www.compaq.com/support/techpubs/illustrated_parts_map		
Compaq Diagnostic for Windows Software	Yes	Yes	Yes	Yes
Compaq Configuration Record Software	Yes	Yes	Yes	Yes
Over-Temp Warning on Screen (Requires IM Agents)		Yes	Yes	Yes
Compaq OS CD (Restore OS CD)	Yes	Yes	Yes	Yes
Compaq Restore CD (Restore Drivers CD)	Yes	Yes	Yes	Yes
Flash ROM	Yes	Yes	Yes	Yes
3.3V Aux Power LED on System PCA	No	Yes	Yes	Yes
Dual Function 5V Aux Power LED (ON) / PS_ON LED (OFF) on System PCA	No	Yes	Yes	Yes
Diagnostic Power Switch LED on board	No	Yes (On when power switch pushed)	No (Not needed because power switch is on system board)	Yes (On when power switch pushed)
Clear Password Jumper	Yes	Yes	Yes	Yes
Clear CMOS Button	Yes	Yes	Yes	Yes
CMOS Battery Holder for easy Replacement	Yes	Yes	Yes	Yes
Processor ZIP Socket for easy Upgrade	Yes	Yes	Yes	Yes
DIMM Connectors for easy Upgrade	Yes	Yes	Yes	Yes
NIC LEDs (integrated) (Green & Amber)	Yes	Yes (Green On = Network Activity; Amber On = 100Base-TX; Amber Off = 10Base-TX)	Yes Green On = Network Activity; Amber On = 100Base-TX; Amber Off = 10Base-TX)	Yes (Green On = Network Activity; Amber On = 100Base-TX; Amber Off = 10Base-TX)

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

Serviceability Features – Web Based	
Support Home - Help for Drivers, ROM, and Software, Documentation	http://www.compaq.com/support/home/
Software & Drivers	http://www.compaq.com/support/home/
Ask Compaq	http://www.compaq.com/support/home/
Reference Library (Product Documents)	http://www.compaq.com/support/home/
Forums and Communities	http://www.compaq.com/support/home/
Warranty Information	http://www.compaq.com/support/home/
Your System Hardware Look up your Hardware Auto Serial Number Detect	http://www3.compaq.com/support/parts/
Support Tools	http://www3.compaq.com/support/tools/
Contact Support	http://www3.compaq.com/support/parts/
Compaq Active Update Support	http://www.compaq.com/products/servers/management/activeupdate/
End User Replaceable Parts Program	http://www.compaq.com/support/eurp/
Product Change Notification (PCN)	http://web14.compaq.com/pcn/pcnbridge.asp
ActiveUpdate	http://web14.compaq.com/pcn/pcnbridge.asp

Serviceability Features of Chassis	**e-pc**	**Ultra-slim Desktop**	**Small Form Factor**	**Convertible Minitower**
Dual Color Power and HD LED - To Indicate Normal Operations and Fault Conditions	No	Yes	Yes	Yes
Diagnostic LED Explanation Table	No	Yes (See Illustrated Parts Map)	Yes (See Illustrated Parts Map)	Yes (See Illustrated Parts Map)
Smart Cover Sensor	No	No	Yes (on riser)	Yes (Option)
Smart Cover Lock	No (Cover can be locked using the Security Screw)	No (Cover can be locked using the Security Screw)	Yes (Option)	Yes (Option)
Front power switch	Yes	Yes	Yes	Yes
Green Pull Tabs, and Quick Release Latches for easy Identification	Yes	Green Pull Tabs on Cables	Yes	Yes
System memory can be upgraded without removing the system board or any internal components	Yes	Yes	Yes	Yes
Tool-less Hood Removal	Yes	Yes (with captive thumbscrews)	Yes (with side push buttons)	Yes (with captive thumbscrews)
Tool-less Hard Drive, CD & Diskette Removal	Yes	Hard Drive is tool-less. Multibay Drives are hot-swappable and ejectable.	Yes	Yes
Tool-less System Board Removal	No	No	Yes	No
Towerable	Yes	Yes	Yes	Yes (Can also Rotate Drives in External Bays)
Universal Tower Stand	No (Not needed – chassis easily converts to either position)	Yes (Standard)	Yes (Option)	No (Not needed - Chassis is easily converted to either desktop or tower)

Standard Features – Base Unit Details

Compaq Evo D510 Models with Intel 845G Chipset

Serviceability Features – Hard Drives	e-pc	Ultra-slim Desktop	Small Form Factor	Convertible Minitower
Drive Self Tests (DPS)	Yes	Yes	Yes	Yes
DPS Access through F10 Setup during Boot	Yes	Yes	Yes	Yes
DPS Access through Diagnostics for Windows	Yes	Yes	Yes	Yes
SMART Technology (Self-Monitoring, Analysis and Reporting Technology)	Yes	Yes	Yes	Yes
SMART I - Drive Failure Prediction	Yes	Yes	Yes	Yes
SMART II - Off-Line Data Collection	Yes	Yes	Yes	Yes
SMART III - Off-Line Read Scanning with Defect Reallocation	Yes	Yes	Yes	Yes

Service and Support

On-site Warranty and Service Note 1: This three-year, limited warranty and service offering delivers three years of on-site, next business-day Note 2 service for parts and labor and includes free telephone support Note 3 24 x 7. Global coverage Note 2 ensures that any product purchased in one country and transferred to another, non-restricted country will remain fully covered under the original warranty and service offering.

Note 1: Terms and conditions may vary by country. Certain restrictions and exclusions apply.

Note 2: On-site service may be provided pursuant to a service contract between Compaq and an authorized Compaq third-party provider, and is not available in certain countries. Global service response times are based on commercially reasonable best effort and may vary by country.

Note 3: Technical telephone support applies only to Compaq-configured, Compaq and Compaq-qualified, third-party hardware and software. Toll-free calling and 24 x 7 support may not be available in some countries.

After-Market Options

		e-pc	USDT	SFF	CMT	
Communications	***Modems***	✓		✓	✓	
	USB 56K V.90 Modem			✓	✓	228141-001
	Lucent V.90 56K PCI Modem					239137-001
	NICs					
	Broadcom 10/100/1000 GB Adapter			✓	✓	266997-B21
Chassis Enhancements	Tower Stand Universal – Carbon			✓	✓	234489-B22
	Solenoid Lock – DT/CMT				✓	252076-B21
	Solenoid Lock – SFF Celeron			✓		252076-B22
	Solenoid Lock – SFF P4			✓		252076-B23
	Front I/O Panel – CMT				✓	271029-B21
	Blank Bezel P4 Carbon			✓	✓	271027-B21
	Blank Bezel Celeron Carbon			✓		271028-B21
Graphics	***2D Graphics***					
	GeForce2 MX200 64MB			✓	✓	283015-B21
	nVidia GeForce4 MX420 64MB DDR			✓	✓	301087-B21
	DVI ADD Adapter			✓	✓	283016-B21
	2D Multi-Display Graphics					
	nVidia Quadro4 200NVS Dual Head			✓	✓	273304-B21
	nVidia Quadro4 400NVS Quad Head			✓	✓	273305-B21
Hard Drives & Controllers	***SMART III Ultra ATA/100 Hard Drives with Drive Protection System*** *(DPS)*					
	20GB ATA HDD 7200RPM	✓	✓	✓	✓	251974-B21
	40GB ATA HDD 7200RPM	✓	✓	✓	✓	201066-B21
	80GB ATA HDD 7200RPM	✓	✓	✓	✓	250020-B21
	120GB ATA HDD 7200RPM	✓	✓	✓	✓	250021-B21
	Ultra ATA RAID Card					238051-B21
	SCSI Hard Drives					
	18GB 15K RPM Ultra320 SCSI			✓	✓	272672-B21
	36GB 15K RPM Ultra320 SCSI			✓	✓	272673-B21
	Adapter, Ultra320 SCSI Controller			✓	✓	272675-B21
	Note. Ultra3 SCSI Hard Drives are not supported on Windows 98.					
Input/Output Devices	***Keyboards***					
	Easy Access Keyboard – Carbon Silver PS/2		✓	✓	✓	267145-008
	Easy Access Keyboard – Carbon Silver USB	✓	✓	✓	✓	267146-008
	Mice					
	Scroll Mouse PS/2		✓	✓	✓	170299-B22
	Scroll Mouse USB	✓	✓	✓	✓	195255-B25
	USB Optical Mouse Carbon	✓	✓	✓	✓	265985-B21

After-Market Options

		e-pc	USDT	SFF	CMT	
Memory (DIMMs)	***266-MHz (PC2100) DDR DIMMs Non-ECC***					
	128MB DDR	✓	✓	✓	✓	282433-B21
	256MB DDR	✓	✓	✓	✓	282434-B21
	512MB DDR	✓	✓	✓	✓	282435-B21
	1GB DDR	✓	✓	✓	✓	282436-B21
Monitors	***TFTs***					
	TFT5017 15" Carbon/silver	✓	✓	✓	✓	263874-003
	TFT1520 15" Carbon/silver dual mode (Sept '03 avail)	✓	✓	✓	✓	295925-003
	TFT1520m 15" Carbon/Silver dual mode multimedia (Sept '03)	✓	✓	✓	✓	301957-003
	TFT1720 17" Carbon/silver dual Mode	✓	✓	✓	✓	295926-003
	TFT1720m 17" Carbon/silver Dual Mode Multimedia	✓	✓	✓	✓	301958-003
	TFT8030 18" Carbon/silver	✓	✓	✓	✓	234632-001
	CRTs					
	Professional Series					
	P720 17" Carbon/silver pro-series	✓	✓	✓	✓	244373-001
	P920 19" Carbon/silver Pro-series	✓	✓	✓	✓	244375-001
	P1220 22" Carbon/silver p-series	✓	✓	✓	✓	244374-001
	Value Series					
	V7550 17" Carbon/Silver Flat Tube	✓	✓	✓	✓	261611-003
	Standard Series					
	S5500 15" Carbon/silver	✓	✓	✓	✓	261602-001
	S7500 17" Carbon/silver	✓	✓	✓	✓	261606-001
	S9500 19" Carbon/Silver	✓	✓	✓	✓	261615-003
Optical Drives	***DVD-ROM Drives***					
	16X DVD-ROM w/+ R Read – Carbon			✓	✓	303123-B22
	CD-ROM Drives					
	48X CD-ROM – Carbon			✓	✓	187217-B22
	DVD-RW Drives and Media					
	4.7 DVD+RW – Carbon			✓	✓	287189-B22
	CD-RW Drives					
	48X/12X/48X CDRW Carbon			✓	✓	303125-B22
	Combo Drives					
	32X CDRW/DVD Combo Drive – Carbon			✓	✓	303124-B22
MultiBay Drive Storage	24X MBay SL CD		✓	✓	✓	165864-B21
	16X MBay CDWR		✓	✓	✓	273837-B21
	MBay 20GB HDD		✓	✓	✓	250826-B21
	MBay 8X DVD ROM w/ RAM Read		✓	✓	✓	238401-B21
	MBay 1.44 Floppy		✓	✓	✓	226935-B25
	MBay IDE Adapter			✓	✓	274141-B22
	Note ** D510 SFF/CMT Systems using MultiBay drives must be configured with the MultiBay Drive Adapter					

After-Market Options

		e-pc	USDT	SFF	CMT	
Removable Storage	***Diskette Drives and Media***					
	32MB Disk-on-key	✓	✓	✓	✓	301993-B21
	Tape Drives and Media					
	Zip250 Drive – Carbon			✓	✓	294416-B22
	TR5 Tape Drive – Carbon			✓	✓	294243-B22
e-pc options	USB Floppy Disk Drive	✓				304707-B21
	USB to Printer Cable	✓				304099-B21
	Mounting Bracket	✓				304254-B21
	All-in-two	✓				304255-B21
	USB to Serial Cable	✓				304096-B21
	Comm Station	✓				304251-001

Memory

845G chipset (128-MB)

DDR SYNCH DRAM DIMM NON-ECC MEMORY

It is not necessary to add memory in pairs or kits. Memory upgrades are accomplished by adding single or multiple DIMMs of the same or varied sizes. This chart does not represent all possible memory configurations.

STANDARD MEMORY

128-MB DIMM Standard

MAXIMUM MEMORY

Intel 845G Chipset supports up to 2-GB of DDR SYNCH DRAM. Platform can utilize 2-GB of memory when 1-GB DIMMs are available with the installation of optional DDR SYNCH DRAM Memory Kits.

Memory		Slot	
		1	2
Standard	128-MB	128-MB	Empty
Maximum Memory when 1-GB available	2-GB	1-GB	1-GB

Note: All Compaq Evo D510 Desktop models contain two DIMM slots, but can only be upgraded to a maximum of 2-GB when 1-GB DDR SYNCH DRAM are available.

Note: It is not necessary to add memory in pairs or kits. Memory upgrades are accomplished by adding single or multiple DIMMs of the same or varied sizes. This chart does not represent all possible memory configurations.

845G chipset (256-MB)

DDR SYNCH DRAM DIMM NON-ECC MEMORY

STANDARD MEMORY

256-MB DIMM Standard

MAXIMUM MEMORY

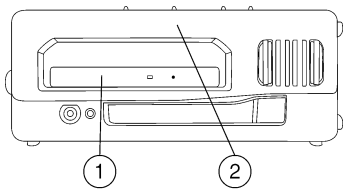
Intel 845G Chipset supports up to 2-GB of DDR SYNCH DRAM. Platform can utilize 2-GB of memory when 1-GB DIMMs are available with the installation of optional DDR SYNCH DRAM Memory Kits.

Memory		Slot	
		1	2
Standard	256-MB	256-MB	Empty
Maximum Memory when 1-GB available	2-GB	1-GB	1-GB

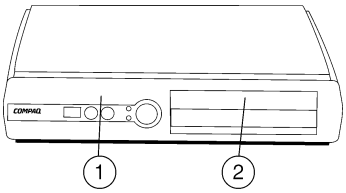
Note: All Compaq Evo D510 Desktop models contain two DIMM slots, but can only be upgraded to a maximum of 2-GB when 1-GB DDR SYNCH DRAM are available.

Note: It is not necessary to add memory in pairs or kits. Memory upgrades are accomplished by adding single or multiple DIMMs of the same or varied sizes. This chart does not represent all possible memory configurations.

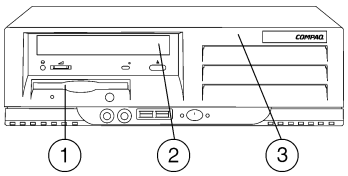
Storage



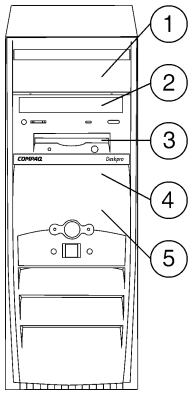
e-pc Desktop



Ultra-slim Desktop



Small Form Factor



Convertible Minitower

	Quantity Supported	Position Supported	Controller
e-pc			
Slimline Storage Drive Bay	1	1	IDE
SMART III Ultra ATA Hard Drives	1	2	IDE
Ultra-slim Desktop			
Hot-swappable MultiBay Drive	1	1	IDE
SMART III Ultra ATA Hard Drives	2	1, 2	IDE
Small Form Factor			
Diskette Drives	1	1	Diskette
Storage Drive Bay	1	2	IDE
SMART III Ultra ATA Hard Drives	1	3	IDE
MultiBay Drive (optional)	1	2	IDE
Convertible Minitower			
Diskette Drives	1	3	Diskette
Tape Drives	2	1,2	IDE
Storage Drive Bay	2	1,2	IDE
SMART III Ultra ATA Hard Drives	Up to 2	4,5	Ultra ATA
SCSI Hard Drives	Up to 2	4,5	SCSI
MultiBay Drive (optional)	2	1,2	IDE

Technical Specifications – Audio

Integrated ADI 1981A Audio (SFF only)	**Type**	Integrated
	AC97 Stereo Codec	Yes
	OPL3 FM Synthesis Support	Yes
	Sound Blaster Compatibility	Yes
	Audio Jacks	Mic-In (20-K ohm Input Impedance) Line-In (12-K ohm Input Impedance) Line-Out * (less than 800 ohms Output Impedance, expects at least a 10-K ohm load) Headphone-Out (2.5 Ohms Output Impedance, expects at least a 32 ohm load)
	Note: *Internal Speaker Amplifier is for Internal Speaker only. External Speakers need to be powered externally.	
	Sampling	7KHz-48KHz
	Compression	ADPCM, ESPCM
	Wavetable Syntheses (software)	Yes
	3D Positional Sound	No
	Analog Audio:	
	Number of Channels on Line-Out (mono/stereo)	Stereo (Left & Right channels)
	Internal Audio Speaker Power Rating	3W
	Internal Speaker	Yes
	External Speaker Jack (Line-Out)	Yes

Integrated ADI 1981A Audio (CMT, USDT and e-pc)	**Type**	Integrated
	AC97 Stereo Codec	Yes
	OPL3 FM Synthesis Support	Yes
	Sound Blaster Compatibility	Yes
	Audio Jacks	Mic-In (20-K ohm Input Impedance) Line-In (12-K ohm Input Impedance) Headphone-Out / Line-Out * (2.5 Ohms Output Impedance, expects at least a 32 ohm load)
	Note: *Internal Speaker Amplifier is for Internal Speaker only. External Speakers need to be powered externally.	
	Sampling	7KHz-48KHz
	Compression	ADPCM, ESPCM
	Wavetable Syntheses (software)	Yes
	3D Positional Sound	No
	Analog Audio:	
	Number of Channels on Line-Out (mono/stereo)	Stereo (Left & Right channels)
	Internal Audio Speaker Power Rating	3W
	Internal Speaker *	Yes
	Internal Tuned Port Speaker	No
	Hardware Equalizer for Internal Speaker	No
	External Speaker Jack (Line-Out)	Yes
	Note: *Internal speaker not available for e-pc	

Technical Specifications – Communications

Intel PRO/100 S Management Adapter	**Connector**	RJ-45
	Controller	Intel 82550 Fast Ethernet
	Data rates supported	10- and 100-Mbps
	Memory	6-KB cache
	Compliance	IEEE 802.1A, 802.2, 802.3, 802.3u and 801.1p compliant
	Bus architecture	PCI 2.2
	Data path width	32-bit
	Data transfer mode	Bus-master DMA
	Hardware certifications	FCC, B, CE
	Power requirement	0.67 watts @ + 3.3VDC card with 5 volt tolerance
	Proactive alert technology	AoL (transmit functionality only)—requires management console software such as HP OpenView or Altiris™, alert utilities for the management console, proxy client software, client configuration software
	Boot PROM support	Yes, Intel PRO/100 Boot Agent (PXE 2.0, RPL)
	Network transfer rate	10BASE-T (half-duplex) 10-Mbps 10BASE-T (full-duplex) 20-Mbps 100BASE-TX (half-duplex) 100-Mbps 100BASE-TX (full-duplex) 200-Mbps
		Operating temperature: 32° to 131°F (0° to 55° C)
		Operating humidity: 85% at 131° F (55° C)
	Dimensions	6.4 x 4.8 x 0.8 inches (16.3 x 12.1 x 1.9 cm)
	Management capabilities	ACPI, WOL and DMI 2.0, AoL, pre-installed Intel PRO/100 Boot Agent PXE 2.0, WfM 2.0, Intel PROSet II utility

Technical Specifications – Communications

Integrated Intel PRO/100 VM Network Connection with WOL	**Manufacturer**	Intel®	
	Interface	Intel SingleDriver™ technology (10/100-Mbps support)	
	Connector	RJ-45	
	Expansion bus architecture	PCI 2.2	
	Configuration	Network transfer rate	10BASE-T (Half-Duplex) 10 Mbps
			10BASE-T (Full-Duplex) 20 Mbps
			100BASE-TX (Half-Duplex) 100 Mbps
			100BASE-TX (Full-Duplex) 200 Mbps
		Data interface	PCI, 32-bit bus mastering
		I/O address	Integrated connectivity with Intel I/O Controller Hub (ICH2)-based platforms
	Remote wakeup	PME through PCI 2.2, no cable required	
	Boot PROM support	Yes, Intel PRO/100 Boot Agent (PXE 2.0, RPL)	
	Special features	Digital adaptive equalization control, link status interrupt capability, boundary scan support, 3-port LED support (speed, link, activity), 10BASE-T auto polarity correction, diagnostic loopback mode, 1:1 transmit transformer ratio support, automatic detection of unplugged mode, remote monitoring (alerting)	
	Proactive alert technology	Alert on LAN (transmit functionality only)—requires Management Console software such as HP OpenView and Altiris, alert utilities for the management console, proxy client software, client configuration software	
	F12 BIOS support	Yes	
	Environmental requirements	Operating temperature	32° to 131° F (0° to 55° C)
		Operating humidity (non-condensing)	85% at 131° F (55° C)
		Altitude	10,000 feet (3,048 meters)
		Non-operating temperature	-40° to 158° F (-40° to +70° C)
		Altitude	5,000 feet (15,240 meters)
	Power	300 mW typical in active transmit mode; reduced power in unplugged mode (<50 mW); 3.3 V device	
	Power management	ACPI 1.0	
	Flash package	48-pin Shrink Small Outline Package (SSOP)	
	Network management	PCI 2.2	
	LED indicators	Three-port support (speed, link, and activity)	
	Standards compliance	IEEE 802.2, IEEE 802.3 and IEEE 802.3u, (100-Mbps ethernet), SCO UnixWare OpenDesktop and OpenServer, PC'99	

Technical Specifications – Communications

3COM 3C905C-TX Network Connection	**Manufacturer**	3Com	
	Connector	RJ-45	
	Bus	32-bit PCI	
	Media	10BASE-T/100BASE-TX	
	System requirements	Computer running on 486, Intel® Pentium®, or Intel Pentium II, Intel Pentium III and Intel Pentium 4 processor; available PCI slot	
	Configuration	Network transfer rate	10BaseT (half-duplex) 10 Mbps
			10BaseT (full-duplex) 20 Mbps
			100BaseTX (half-duplex) 100 Mbps
			100BaseTX (full-duplex) 200 Mbps
		Data interface	PCI, 32-bit bus mastering
		I/O address	Automatic I/O address
		Interrupt level	Automatic IRQ setup
	Standards compliance	PCI 2.2, PC'99, DMI 2.0, WfM 2.0, ACPI 1.0, PXE, RWU	
	Remote wakeup	Yes, WAKE signal	
	Operating distance	10BASE2 up to 607 feet (185 meters); 10BASE5 up to 1,639 feet (500 meters); 10BASE-T/100BASE-TX up to 328 feet (100 meters)	
	Proactive alert technology	No	
	Environmental operating requirements	Temperature	32º to 131º F (0º to 55º C)
		Humidity (non-condensing)	10% to 90%
	Power management	ACPI	
	Network management	Any SNMP management medium including 3Com Transcend® Network Supervisor, 3Com Dynamic*Access*® boot services, and 3Com Dynamic*Access* Managed PC Boot Agent	
	Power	+ 3.3 V, 340 mA	
	LED indicators	100-Mbps link, 10-Mbps link, activity	
	Dimensions	4.7 x 2.2 inches (12.0 x 5.6 cm)	
	Certifications	CE Mark, FCC Class B, VCCI Class B, CISPR 22 Class B	

Technical Specifications – Communications

Lucent V.90 56K PCI Win Modem	**Data Transmission**	V.90/K56flex technology speeds: 56,000 Kbps maximum downstream data, controllerless
	Note: 56 Kbps technology refers to download speeds only and requires compatible modems at server sites. Other conditions may limit modem speed. FCC limitations allow a maximum of 53 Kbps during download transmissions.	
	Data Speeds	(Upload only) 33,600 / 31,200 / 28,800 / 26,400 / 21,600 / 19,200 / 16,800 / 14,400 / 12,000 / 9,600 / 7,200 / 4,800 / 2,400 / 1,200 / 300
	Data Standards	ITU V.90, ITU-T, V.34bis, V.22bis, V.22bis, V.21, V.23, Bell 212A, and Bell 103
	Fax speeds	14,400 / 12,000 / 9,600 / 7,200 / 4,800 / 2,400 / 1,200 / 300 b/s
	Fax mode capabilities	Group3 FAX, V. 17, V.29, V.27ter, and V.21 Channel 2, Class 1
	Error Correction and Data Compression	V.44 (software upgradeable), 4.2bis, V.42 and MNP2-5
	Power Management	APM and ACPI states D0, D1, D2, and D3; meets PCI 2.2 requirements and PC'99 requirements
	Upgradability	Software driver upgradeable for v.92 and future enhancements
	Video	ITU-T V.80 video ready interface
	Other	TIA/EIA 602 standard AT command set Integrated DTE interface with speeds of up to 115.2 Kbps, parallel 16550a UART-compatible interface Optional ring wakeup signal
	Operating temperature	32° to 104° F/0° to 40° C
	Operating humidity	20% to 80%, non-condensing
	Power	Requires a 3.3-V auxiliary power rail on PCI bus Uses only one PCI load (i.e., one grant/request pair), one shared IRQ, one electrical load
	Chipset	Agere Systems 1648C (Mars 3.2)—Integrated PCI interface with 5-V tolerant buffers and CardBus support
	Dimensions (L X H)	Complies with PCI low profile specifications—6.7 x 2.3 inches (17.0 x 5.8 cm) and supports high- and low-profile brackets
	Connection	Dual, parallel RJ-11 support with auxiliary Tip/Ring connector
	Other features	Digital line protection, call progress monitoring via on-board piezo device, transformer-based DAA design, support for high profile and low profile brackets, PnP ID supports via external EEPROM
	Safety	UL recognized to UL 1950, 3rd edition (U.S. and Canada); IEC 950 (TUV, NEMKO, DEMKO, SEMKO); CE Mark, EC 950 (TUV, NEMKO, DEMKO, SEMKO, CE mark
	EMC	FCC Part 15, IC ES003, EN 55022, 3rd edition, EN 55024, annex A, EN 61000-4-6, EN 61000-4-8
	Telecom	FCC Part 68, IC-CS-03 (Canada); Worldwide PTT approvals
	Health	Bare PCB material compliant to 94V-0 or better (marked as such), Microsoft Windows Me health compliant
	Other	PC'99 compliant, PCI version 2.2, WHQL approved; support for ACPI revision 1.1,

Technical Specifications – Communications

V.92 56K USB Modem (Ultra-slim Desktop and e-pc only)	**Data Transmission**	V.90/K56flex technology speeds
	Data Speeds	14400bps send and receive fax modem with automatic fallback to 12000, 9600, 7200, 4800, 2400bps. · 33600bps data modem with automatic fallback.
	Data Standards	V.90, V.92 (software upgradeable), K56 Flex V1.2, V.34 w/extended rates, V.32bis, V.32, V.23, V.22, V.22bis, and V.21; Bell 212A and 103
	Fax speeds	V.29, V.17
	Fax mode capabilities	ITU-T V.17, V.29, V.27
	Error Correction and Data Compression	MNP class 2-4 Microcom error correction. l ITU-T Recommended V.42 error correction MNP 5 Mirocom data compression, ITU-T V.42bis data compression.
	Power Management	Full Compliance with the Universal Serial Bus Specification Revision 1.1
	Other	Support k56flex/V.90 56kbps for highest internet connection rates. 14400bps send and receive fax modem with automatic fallback to 12000, 9600, 7200, 4800 and 2400bps. Automode detection allows the modem to connect with a modem that is configured for differing connection modes. Support Plug & Play function

Broadcom NetXtreme Based 10/100/1000 Management Gb Adapter	**Connector**	RJ-45	
	Controller	Broadcom 5702 PCI LAN Controller	
	Memory	Integrated 96Kb frame buffer memory	
	Data rates supported	10/100/1000 Mbps	
	Compliance	IEEE 802.1A, 802.1P, 802.1P, 802.1Q, 802.2, 802.3, 802.3AB and 802.3u compliant, 802.3x flow control	
	Bus architecture	PCI 2.2	
	Data path width	32-bit, 33/66 MHz bus interface	
	Data transfer mode	Bus-master DMA	
	Hardware certifications	FCC, B, CE, TUV- cTUVus Mark Canada and United States, TUV- GS Mark for European Union	
	Power requirement	1.48 watts @ +3.3V AUX supply with 5V tolerance	
	Boot ROM support	Yes	
	Network transfer rate	10Base-T (half-duplex) 10 Mbps 10Base-T (full-duplex) 20 Mbps 100Base-TX (half-duplex) 100 Mbps 100Base-TX (full-duplex) 200 Mbps 1000Base-T, 1000Mbps	
	Environmental	Operating temperature	32° to 131° F (0° to 55° C)
		Operating humidity	85% at 131° F (55° C)
	Dimensions	4.721 x 2.0 x 0.08 in (12.02 x 5.09 x 1.9 cm)	
	Management capabilities	ACPI, WOL and DMI 2.0, PXE 2.0, WfM 2.0, Broadcom management utility	

Technical Specifications – Graphics

NVIDIA GeForce2 MX200 64MB with DVI-I

Vertical frequency	60-85 Hz
Graphics controller	NV11
Bus type	AGP 4X
RAMDAC	Integrated 350 MHz RAMDAC
Memory type	SDRAM
Memory amount	64 MB unified frame buffer and texture memory
Maximum memory	64 MB
Memory speed	166 MHz
Data path	256-bit
Controller clock speed	175 MHz
Maximum vertical refresh rate	85 Hz
Maximum pixel clock	350 MHz
Graphics API support	OpenGL 1.2, DirectX 5, 6, 7, & 8.1
Operating systems support	Microsoft Windows XP, Microsoft Windows 2000 (preinstalled) Microsoft Windows NT 4.0, and Microsoft Windows 98 (supported via SoftPaqs)
Buffer	96-bit (per pixel)
Image planes	24-bit double buffered
Z-buffer	32-bit (24-bit with stencil planes)
Overlay	Supported
Stencil planes	8-bit (maximum)
Alpha planes	8-bit
External interface	DVI-I; an included DVI to VGA adapter provides an analog video output port (female, 15-pin, D-SUB connector) for connection to an analog display.

Resolutions supported (DVI)

Resolution	Refresh Rate/Hz	High Color	True Color
1600 x 1200	60	Yes	Yes
1600 x 900	60	Yes	Yes
1280 x 1024	60	Yes	Yes
1280 x 960	60	Yes	Yes
1152 x 864	60	Yes	Yes
1024 x 768	60	Yes	Yes
960 x 720	60	Yes	Yes
800 x 600	60	Yes	Yes
640x 480	60	Yes	Yes

Resolutions supported (VGA)

Resolution	Refresh Rate/Hz	High Color	True Color
1920 x 1440	75	Yes	Yes
1920 x 1200	85	Yes	Yes
1920 x 1080	85	Yes	Yes
1600 x 1200	85	Yes	Yes
1600 x 900	85	Yes	Yes
1280 x 1024	85	Yes	Yes
1280 x 960	85	Yes	Yes
1152 x 864	85	Yes	Yes
1024 x 768	85	Yes	Yes
960 x 720	85	Yes	Yes
800 x 600	85	Yes	Yes
640x 480	85	Yes	Yes

Technical Specifications – Graphics

Intel Extreme Graphics (Integrated with Intel 845G chipset)	**Bus Type**	Integrated
	AGP Interface	Supports a single 1.5v Accelerated Graphics Port Interface, Specification 2.0 compliant device
		Supports 1x/2x/4x data transfers and 2x/4x fast writes
		32-deep AGP request queue
		AGP signals multiplexed with two DVO ports
		Supports ADD (AGP Digital Display) cards
	Core frequency	200-Mhz
	3D setup and render engine	Discrete Triangles, Strips, and Fans support
		Indexed vertex and flexible vertex formats
		Pixel accurate fast scissoring and clipping operation
		Backface culling support
		Supports D3D and OGL pixelization rules
		Anti-aliased lines support
		Spirte points support
	High quality texture engine	Per pixel perspective corrected texture mapping
		Single pass texture compositing (multi-textures) at rate
		12 levels of detail MIP map sizes from 1x1 to 2Kx2K
		All texture formats including 32-bit RGBA
		Alpah and luminance maps
		Texture chroma-keying
		Bilinear, trilinear and anisotropic MIP-mapped filtering
		Cubic environment reflection mapping
		Embossed bump-mapping
		DOT3-based bump-mapping
		DXTn texture decompression
		FXT1 texture decompression
	3D graphics rasterization enhancements	200 megapixel / sec fill rate
		Flat and Gouraud shading
		Color alpha blending for transparency
		Vertex and programmable pixel fog and atmospheric effects
		Color specular lighting
		Z Bias support
		Dithering
		Anti-Aliasied lines
		16 and 24 bit Z buffering
		16 and 24 bit W buffering
		8 bit stencil buffering
		Double and triple render buffer support
		16 and 32 bit color
		Destination alpha
		Maximum 3D resolution supported 1600 x 1200 x 32 @ 85Hz
		Fast clear support

Technical Specifications – Graphics

Intel Extreme Graphics (Integrated with Intel 845G chipset) *(continued)*

2D Graphics	Optimized 256 bit BLT (Block Transfer) Engine
	GDI+ feature support
	Alpha stretch blither
	Anti aliased lines
	32-bit alpha blended cursor
	Programmable 3-color transparent cursor
	Color space conversion
	8, 16, and 32 bit color
	ROP support
Video DVD / PC-VCR	Dynamic Bob and Weave support for video streams
	Synclock display and TV out to video source
	Source resolution up to 720 x 480 with 2 vertical taps
	Software DVD at 30 fps (frames per second), full screen
Video Overlay	Single scalable overlay
	Multiple overlay functionality provided via stretch blitter (PIP, video conferencing, etc.)
	5 tap horizontal, 2 tap vertical filtered scaling
	Independent gamma correction
	Independent brightness / contrast / saturation
	Independent tint / hue support
	Destination color keying
	Source chroma keying
	Maximum source resolution: 720 x 480 (576)
	Maximum overlay display resolution: 1600 x 1200 x 32 @ 60Hz, 1280 x 1024 x 32 @ 85hz.
Display	Analog display support
	350Mhz integrated 24-bit RAMDAC
	Up to 2048 x 1536 @ 60Hz refresh
	Hardware color cursor support
	DD2CB compliant interface
	Multiplexed digital display channel
	Two channels multiplexed with AGP
	165Mhz dot clock on each 12 bit interface
	Can combine two 12 bit channels to form one 24 bit channel
	Supports flat panels up to 2048 x 1536 @ 60Hz or dCRT / HDTV @ 1920 x 1080 @ 85Hz.
	Supports hot plug and display
	Supports LVDS, TMDS transmitters or TV-out encoders
	ADD card utilizes AGP connector
	Three Display Control Interfaces (I2C/DDC) multiplexed on AGP

Refresh Rate with Memory Indicated

Resolution (Horizontal x Vertical)	Color Depth (Bits per Pixel)	Refresh Rate (Hz)
640 x 480	8,16 and 32	85, 85 and 85
800 x 600	8,16 and 32	85, 85 and 85
1024 x 768	8,16 and 32	85, 85 and 85
1280 x 1,024	8,16 and 32	85, 85 and 85
1600 x 1200	8,16 and 32	85, 85 and 85
1900 x 1440	8,16 and 32	75, 75 and N/A

Technical Specifications – Hard Drives

7200 rpm SMART III Ultra ATA/100 Hard Drives	**80-GB**	**Capacity**	80,000 MB	
		Rotational Speed	7200 rpm	
		Interface	Ultra ATA/100	
		Height	1 in/25.4 mm	
		Width	3.5 in/88.9 mm	
		Transfer Rate Synchronous (Maximum)	100 MB/s	
		Seek Time (typical reads, including settling)	Single Track	1.2 ms (2.7 ms quiet seek)
			Average	8 ms (10.1 ms quiet seek)
			Full-Stroke	18 ms (21.1 ms quiet seek)
		Physical Configuration	Logical Blocks	78,165,360
		Operating Temperature	41° to 131°F/5° to 55°C	
	40-GB	**Capacity**	40,000 MB	
		Rotational Speed	7200 rpm	
		Interface	Ultra ATA/100	
		Height	1 in/25.4 mm	
		Width	3.5 in/88.9 mm	
		Transfer Rate Synchronous (Maximum)	100 MB/s	
		Seek Time (typical reads, including settling)	Single Track	1.2 ms (2.7 ms quiet seek)
			Average	8 ms (10.1 ms quiet seek)
			Full-Stroke	18 ms (21.1 ms quiet seek)
		Physical Configuration	Logical Blocks	78,165,360
		Operating Temperature	41° to 131°F/5° to 55°C	
	20-GB	**Capacity**	20,000 MB	
		Rotational Speed	7200 rpm	
		Interface	Ultra ATA/100	
		Height	1 in/25.4 mm	
		Width	3.5 in/88.9 mm	
		Transfer Rate Synchronous (Maximum)	100 MB/s	
		Seek Time (typical reads, including settling)	Single Track	1.2 ms (2.7 ms quiet seek)
			Average	8 ms (10.1 ms quiet seek)
			Full-Stroke	18 ms (21.1 ms quiet seek)
		Physical Configuration	Logical Blocks	39,102,336
		Operating Temperature	41° to 131°F/5° to 55°C	

Note: 20-, 40, and 80-GB capacity points include Quite Idle technology, which reduces acoustic levels approximately 5 decibels, and ship worldwide. 20-GB 7200 rpm drives shipping in EMEA with Quiet Seek also have Quiet Idle technology, which reduces acoustic levels by approximately 5 decibels.

Technical Specifications – Hard Drives

5400 rpm SMART III Ultra ATA/100 Hard Drives	**80-GB**	**Capacity**	80,000 MB	
		Rotational Speed	5400 rpm	
		Interface	Ultra ATA/100	
		Height	1 in/25.4 mm	
		Width	3.5 in/88.9 mm	
		Transfer Rate Synchronous (Maximum)	100 MB/s	
		Seek Time (typical reads, including settling)	Single Track	1.2 ms (2.7 ms quiet seek)
			Average	8 ms (10.1 ms quiet seek)
			Full-Stroke	18 ms (21.1 ms quiet seek)
		Physical Configuration	Logical Blocks	78,165,360
		Operating Temperature	41° to 131°F/5° to 55°C	
	40-GB	**Capacity**	40,000 MB	
		Rotational Speed	5400 rpm	
		Interface	Ultra ATA/100	
		Transfer Rate Synchronous (Maximum)	66 MB/s	
		Height	1 in/25.4 mm	
		Width	3.5 in/88.9 mm	
		Seek Time (typical reads, including settling)	Single Track	1.5 ms (2.9 ms quiet seek)
			Average	10.5 ms (12.4 ms quiet seek)
			Full-Stroke	23 ms (23 ms quiet seek)
		Physical Configuration	Logical Blocks	39,102,336
		Operating Temperature	41° to 131°F/5° to 55°C	
10,000 rpm Wide Ultra3 SCSI Hard Drives	**36.4-GB**	**Capacity**	36,400 MB	
		Rotational Speed	10,000 rpm	
		Height	1 in/25.4 mm	
		Width	3.5 in/88.9 mm	
		Interface	Ultra3 (Ultra160) SCSI	
		Transfer Rate Synchronous (Maximum)	160 MB/s	
		Seek Time (typical reads, including settling)	Single Track	0.6 ms
			Average	4.7 ms
			Full-Stroke	12 ms
		Logical Blocks	71,132,000	
		Operating Temperature	50° to 95°F/10° to 35°C	
MultiBay and Slimline Hard Drive	**20-GB**	**Capacity**	20 GB	
		Height	1 in/25.4 mm	
		Width	3.5 in/88.9 mm	
		Interface	Ultra ATA/100	
		Transfer Rate Synchronous (Maximum)	100 MB/s	
		Seek Time (typical reads, including settling)	Single Track	1.2 ms (2.7 ms quiet seek)
			Average	8 ms (14.3 ms quiet seek)
			Full-Stroke	18.0 ms (24.1 ms quiet seek)
		Rotational Speed	7200 rpm	
		Logical Blocks	39,102,336	
		Operating Temperature	41° to 131°F/5° to 55°C	

Technical Specifications – Input/Output Devices

Compaq Easy Access Keyboard (PS/2 or USB)	**Dimensions** (HxWxD)	1.4 x 18.3 x 6.3 in/36 x 465 x160 mm	
	Weight	Approximately 2 lbs/0.9 kg	
	Electrical	Operating Voltage	+5VDC ± 5%
		Power Consumption	50 mA maximum (with 3 LEDs on)
		System Interface	PS/2 mini-din connector
		ESD	CE level 4, 15 kV air discharge
		EMI-RFI	Conforms to FCC rules for a Class B computing device
		PC98	Functionally compliant
	Mechanical	Languages	30+ available
		Keycaps	Low-profile design
		Switch Actuation	55 g nominal peak force with tactile feedback
		Switch Life	20 million keystrokes (using Hasco modified tester)
		Switch Type	Contamination resistant membrane
		Key Leveling Mechanism	For all double wide and greater length keys
		Cable Length	6 ft/1.8 m
		PC98-99	Mechanically compliant
		Acoustics	50 dBA maximum sound pressure level
	Environmental	Operating Temperature	50° to 122° F/10° to 50° C
		Non-operating Temperature	–22° to 140° F/–30° to 60° C
		Operating Humidity	10% to 90% (non condensing at ambient)
		Non-operating Humidity	20% to 80% (non condensing at ambient)
		Operating Shock	40 g, 6 surfaces
		Non-operating Shock	80 g, 6 surfaces
		Operating Vibration	2 g peak acceleration
		Non-operating Vibration	4 g peak acceleration

Technical Specifications – Input/Output Devices

USB SmartCard Keyboard	**Dimensions** (HxWxD)	18.2 x 6.3 x 1.3 in (463 x 161 x 33 mm)	
	Weight	2 pounds (0.9 kg) minimum	
	Electrical	Operating Voltage	+ 5VDC +/- 5%
		Power Consumption	100-mA maximum (with four LEDs ON)
		System Interface	USB Type A plug connector
		ESD	CE level 4, 15-kV air discharge
		EMI - RFI	Conforms to FCC rules for a Class B computing device
		Microsoft PC 99 - 2001	Functionally compliant
	Mechanical	Languages	30+ available
		Keycaps	Low-profile design
		Switch actuation	55-g nominal peak force with tactile feedback
		Switch life	20 million keystrokes (using Hasco modified tester)
		Switch type	Contamination-resistant membrane
		Key-leveling mechanisms	For all double-wide and greater-length keys
		Cable length	6 ft (1.8 m)
		Microsoft PC 99 - 2001	Mechanically compliant
		Acoustics	43-dBA maximum sound pressure level
	Environmental	Operating temperature	50 to 122 degrees F (10 to 50 degrees C)
		Non-operating temperature	–22 to 140 degrees F (–30 to 60 degrees C)
		Operating humidity	10% to 90% (non-condensing at ambient)
		Non-operating humidity	20% to 80% (non-condensing at ambient)
		Operating shock	40 g, six surfaces
		Non-operating shock	80 g, six surfaces
		Operating vibration	2-g peak acceleration
		Non-operating vibration	4-g peak acceleration
		Drop (out of box)	26 inches (66 cm) on carpet, six-drop sequence
		Drop (in box)	42 inches (107 cm) on concrete, 16-drop sequence
	Approvals	CE-Mark, UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BSMI, C-Tick, MIC	
	Ergonomic compliance	ANSI HFS 100, ISO 9241-4, and TUVGS	

Technical Specifications – Input/Output Devices

Compaq 2-Button Scroll Mouse (PS/2 or USB)	**Scroll Wheel**	8 mm	
	Maximum Rotation Speed	30 mm/s	
	Switch Type	Light force micro-switch	
	Switch Life	1 million operations	
	Mechanical Life	Minimum 200,000 revolutions	
	Environmental	Operating Temperature	50° to 122° F/10° to 50° C
		Non-operating Temperature	–22° to 140° F/–30° to 60° C
		Operating Humidity	10% to 90% (non condensing at ambient)
		Non-operating Humidity	20% to 80% (non condensing at ambient)
		Operating Shock	40 g, 6 surfaces
		Non-operating Shock	80 g, 6 surfaces
		Operating Vibration	2 g peak acceleration
		Non-operating Vibration	4 g peak acceleration
	Electrical	Operating Voltage	+5VDC ± 10%
		Power Consumption	15mA
		System Consumption	PS/2 mini-din connector
		ESD	CE level 4, 15 kV air discharge
		EMI-RFI	Conforms to FCC rules for a Class B computing device
		PC98	Functionally compliant
	Mechanical	Resolution	400 ± 20% DPI
		Tracking Speed	10 in/s maximum
		Acceleration	100 in/s
		Switch Actuation	85 g nominal peak force
		Switch Life	1,000,000 operations (using Hasco modified tester)
		Cable Length	2 m
		PC98-99	Mechanically compliant
	Regulatory Approvals	UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BCIQ, C-Tick	

Technical Specifications – Optical Storage

48X CD-ROM Drive	**Interface**	ATAPI IDE	
	Data buffer	16.6 Mbps	
	Data transfer rate	Sustained—150 Kbps minimum (audio)	Variable (CD)—3,000 to 7,200 Kbps
	Disk rotation technology	CAV (Constant Angular Velocity)	
	Access time (ms)	Random: <100 ms	Full-stroke seek: <150 ms
	Average access time	< 80 ms	
	Cache buffer (standard/maximum)	128 KB	
	Disk formats read	Multi-session Photo CD, multi-read CD-ROM, CD text, audio CD, CD-I, CD-RW, CD-R, CD-Extra, CD-ROM XA	
	Disk formats written	None	
	Disk capacity (CD)	650 MB	
	Block size	Mode 1—2,048 bytes Mode 2—2,340 / 2,336 bytes CD-DA—2,352 bytes CD-XA—2,328 bytes	
	Diameter	12 cm; 8 cm	
	Thickness	1.2 mm	
	Track pitch	1.6 µm	
	Audio output level	Line-out—0.7 V @ 47 Kohm	Headphone—0.6 V @ 32 ohm
	Startup time	<7 seconds (typical); < 30 seconds with multi-session	
	Operating conditions	Temperature Relative humidity	41° to 113° F (5° to 45° C) 10% to 80%
	Dimensions (HxWxD, maximum)	1.7 x 5.9 x 8.2 inches (4.3 x 15.0 x 20.8 cm)	
	Weight	2.6 pounds (1200 g)	
	MPEG playback graphics solution support	None	

Technical Specifications – Optical Storage

40X CD-RW Drive

Interface	ATAPI IDE	
Media formats written	CD-R and CD-RW	
Media capacity	700 MB	
Write methods	Disc-at-once, track-at-once, session-at-once, fixed packet, and variable packet	
Recording/playing time	80 minutes	
Data transfer rates	Sustained	CD-RW write (1-4X media) —1,500 Kbps (4X)
		CD-RW write (4-10X media) —1,500 Kbps (10X)
		CD-RW read—1,500 Kbps (10X)
		Digital audio extraction (minimum) —1,500 Kbps (10X)
	Variable	CD-R write—2,400 to 4,800 Kbps (16X to 32X) (ZCLV)
		CD-ROM, CD-R read—1,500 to 6,000 Kbps (10X to 40X)
Data transfer modes	ATA PIO mode 4—16.7 Mbps	
	ATA multi-word DMA mode 2—16.7 Mbps	
	ATA UltraDMA mode 0—16.7 Mbps	
	ATA UltraDMA mode 1—24 Mbps mode 2—33 Mbps (default)	
Media formats read	audio, CD-ROM (modes 1 and 2), CD-ROM XA (mode 2, forms 1 and 2), single- or multi-session photo CD, CD-I, video CD, CD-text	
Access times	Random	< 120 ms typical
	Full stroke	< 200 ms typical
Start-up time	Single	< 7 seconds typical
	Multi-session	< 30 seconds typical
Stop time	< 4 seconds	
Block size	Mode 1—2,048/2,352 bytes	
	Mode 2, Form 1—2,048/2,328/2,336/2,340/2,352 bytes	
	Mode 2, Form 2—2,328/2,336/2,340/2,352 bytes	
	CD-DA—2,352/2,368 bytes	
Disc diameter	120 mm or 80 mm	
Track pitch	1.6 µm	
Disc loading mechanism	Half-height, tray load	
Operating conditions	Temperature	41° to 113° F (5° to 45° C) operating; –4° to 140° F
	Humidity	10% to 80%
Mounting orientation	Horizontal or vertical	
Dimensions	Fits in a standard 5.25-inch drive bay	
Weight	1.2 kg (2.6 pounds)	
Approvals/environmental	UL 94 and 1950, CSA, CE, FDA, FCC	

Technical Specifications – Optical Storage

16X DVD-ROM Read +/- Drive	**Bus**	Ultra DMA 33	
	Data transfer rate (1 KB = 1024 bytes)	Sustained	DVD = 8.1 Mbps to 21.6 Mbps CD-ROM = 2.55 Kbps to 6.00 Kbps
	Disc rotation technology	DVD—CAV (Constant Angular Velocity) CD—CAV	
	Access time (ms)	Random	DVD = <100 ms; CD-ROM = < 80 ms
		Full stroke seek	DVD = <240 ms; CD-ROM = <160 ms
	Cache buffer standard / max	512 KB	
	ATAPI interface	ATAPI	
	Disc formats read	DVD-RAM, DVD-ROM, DVD-video, DVD-R, DVD-RW, DVD-RAM, Photo CD/multi-session, CD-ROM, CD text, audio CD, CD-I, CD-RW, CD-R, CD-DA, video CD, CD Extra, CD-ROM XA, MPEG, MPC level	
	Disc formats written	None	
	Disc	Capacity	CD—650 MB DVD—4.7 GB
		Block size	Mode 0—2,352 (bytes) Mode 1—2,352 / 2,340 / 2,336 / 2,048 (bytes) Mode 2—2,352 / 2,340 / 2,336 / 2,048 (bytes) DVD—2,048 (bytes)
		Diameter	12 cm, 8 cm
		Thickness	1.2 mm (CD-ROM) 1.2 mm (DVD)
		Track pitch	1.6 µm (CD-ROM) 0.74 µm (DVD)
	Audio output level	Line out	0.7± 0.1 Vrms
		Headphones	0.45 ± 0.2 Vrms
	Operating conditions	Temperature	41° to 113° F (5° to 45° C)
		Humidity	5% to 85% relative humidity
	Dimensions (H x W x D)	1.67 x 5.83 x 8.18 inches (4.23 x 14.81 x 20.75 cm)	
	Weight	2.22 pounds (1 kg)	
	Agency approvals / environmentals	UL, CSA, TUV, FDA, FCC, CE, EMI	
	MPEG video playback compatibility	Refer to the platform for support	
	RPC2 (Regional Protection Control)	Yes	

Technical Specifications – Optical Storage

16X Combo DVD-ROM/CD-RW Drive

Orientation	Either horizontal or vertical	
Tray load	5.25 inch half-height	
Interface type	ATAPI	
Dimensions—external, excluding bezel (W x H x D)	5.8 x 1.7 x 7.7 in (146.5 x 42.1 x 196 mm)	
Disc diameter	5 inches, 3 inches (12 cm, 8 cm)	
Disc thickness	0.05 in (1.2 mm)	
Track pitch	1.6 µm (CD), 0.74 µm (DVD)	
Disc center hole diameter	0.6 inch (15 mm)	
Reference scanning velocity	1.2 m/s (CD); 3.5 m/s (DVD SL); 3.8 m/s (DVD DL)	
Read only disc parameters	Formats and modes supported	CD-ROM—Mode 1; CD-ROM XA—Mode 2 (forms 1 and 2); CD digital audio; CD Extra; CD-I—Mode 2 (forms 1 and 2) and CD-I-Ready; Photo CD (single and multi-session); video CD; DVD (single- and double-layer); DVD-R (3.95-GB); DVD-R (4.7-GB)
	Capacity	540 MB (CD— mode 1, 12 cm); 650 MB (CD—mode 2, 12 cm); 700MB (CD-ROM—80 minutes); 180 MB (CD-ROM—8 cm); 4.7 GB (DVD-5); 8.5 GB (DVD-9); 9.4 GB (DVD-10)
	Block size	Mode 1—2,048 and 2,352 bytes; mode 2, form 1—2,048, 2,328, 2,336, 2,340 and 2,352 bytes; mode 2, form 2—2,328, 2,336, 2,340 and 2,352 bytes; CD-DA—2,352 and 2,368 bytes; DVD—2,048 bytes
Writeable disc parameters	Disc type	CD-R and CD-RW
	Write methods	Disc at Once, Track at Once, Session at Once, Variable Packet, Fixed Packet
	Format and modes supported	CD-ROM (mode 1); CD-ROM XA (mode 2, forms 1 and 2); CD digital audio, CD-I (mode 2, forms 1 and 2); video CD
	Capacity	540 MB (mode 1, 12 cm); 650 MB (mode 2, 12 cm); 700 MB (CD-ROM, 80 minutes); 180 MB (CD-ROM, 8 cm)
	Block size	Mode 1 Disc type—2,048 bytes; mode 2, form 1—2,048 and 2,352 bytes; mode 2, form 2—2,352 bytes; CD-DA—2,352 bytes
Access times (typical reads, including settling)	Random	< 130 ms (typical)
	Full stroke	< 240 ms (typical)
Data transfer rates	Sustained—1,200 KB/s (8X)	CD-R write
	Sustained— 600 KB/s (4X)	CD-RW
	Sustained—1,200 KB/s (8X CAV)	Digital audio extraction (minimum)
	Variable—1,500 to 4,800 KB/s (10X to 32X)	CD-ROM, CD-R read, CD-RW read
	Variable—2,705 to 10,820 KB/s (2X to 8X)	DVD read

Technical Specifications – Optical Storage

16X Combo DVD-ROM/CD-RW Drive *(continued)*	**Data transfer modes**	ATA PIO mode 4 (16.7 Mbps; ATA Multi-word DMA mode 2 (16.7 Mbps); ATA UltraDMA mode 0 (16.7-Mbps—default setting if UDMA supported); ATA UltraDMA mode 1 (24 Mbps, optional), mode 2 (33 Mpbs, optional)	
		Cache buffer	2 MB (minimum)
		Startup time (single)	< 7 seconds (typical)
		Startup time (multi-session)	< 30 seconds (typical)
		Stop time	< 4 seconds
	Power	Source	Four-pin, DC power receptacle
		DC power requirement	5 VDC ± 5%—100 mV ripple p-p
			12 VDC ± 5%—200 mV ripple p-p
		DC current	5 VDC (< 1 A typical, < 1.5 A maximum)
			12 VDC (< 1 A typical, < 1.5 A maximum)
		Total drive power (standby mode)	< 2.5 watt
	Audio output level	0.7 Vrms (typical)	
	Configuration jumper block	Master, slave, and cable select modes	
	Data interface connector	40-pin, shrouded and keyed, flat ribbon	
	Environmental (all conditions non-condensing)	Temperature (operating)	41° to 113°F (5° to 45°C)
		Relative humidity (operating)	10% to 85%
		Maximum wet bulb temperature (operating)	86°F (30°C)
	Certifications, requirements	MPC-3 compliant, multi-read requirements, PC'99 certified, ACA AS/NZS 3548, ANSI C63.4–1992, ATAPI Spec SFF-8020, ATA Spec X3T9.2791D, Australian Communications Authority, CB Bulletin No. 92A1, CFR 21, Part 1040, CSA C22.2 No. 950, C.I.S.P.R. Pub 22, ECMA 74, EEC/93/68, EEC/73/23, EEC/99/5, EMKO-TSE (74SEC) 207/94	
MultiBay and Slimline 8X DVD-ROM Drive with Ram Read	**Form Factor**	12.7 mm MultiBay	
	Center Hole Diameter	59 in/0.39 cm	
	Disc Diameter	12 cm/8 cm	
	Disc Thickness	1.2 mm	
	Track Pitch	0.74 µm	
	Access Times (typical reads, including settling)	Random	< 180 ms
		Full-Stroke	< 300 ms
	Audio Output Level	Line out	0.7 Vrms
	Cache Buffer	128 KB/s (minimum)	
	Data Transfer Rate (typical, including settling)	Sustained (16X) CD-ROM	2.4 MB/s
		Sustained 8X DVD	10.08 MB/s
		Normal PIO Mode 4 (single burst)	16.6 MB/s
	Start-up Time	< 15 sec	
	Stop Time	< 4 sec	

Technical Specifications – Optical Storage

MultiBay and Slimline 24X CD-ROM Drive	**MultiBay Drive**	Dimensions (H x W x D)	0.5 x 5.2 x 5.0 inches (1.3 x 13.3 x 12.6 cm)
		Weight	0.47 pounds (215.0 grams)
	Applicable Disk	CD-ROM (Modes 1, 2 and 3), CD-XA ready (Modes 2, Form 1 and 2), CD-I ready (Mode 2, Forms 1 and 2), CD-R (read only), CD Plus, Photo CD (Single and Multi-session), CD-Extra, Video CD, CD-WO (fixed packets only), CD-Bridge	
	Center Hole Diameter	0.6 inch (15 mm)	
	Disk Diameter	4.7 inches (12 cm), 3.2 inches (8 cm)	
	Disk Thickness	0.05 inch (1.2 mm)	
	Track Pitch	1.6 µm	
	Access Times (typical reads, including settling)	Random	< 150 ms
		Full-Stroke	< 300 ms
	Audio Output Level	Line-out	0.7 Vrm
	Cache Buffer	128 KB	
	Data Transfer Rate (typical, including settling)	Sustained (16X)	2400 Kbps (sustained)
		Variable	1500 to 3600 Kbps (10X to 24X)
		Normal PIO Mode 4 (single burst)	16.7 Mbps
	Start-up Time	< 8 seconds	
	Stop Time	< 4 seconds	

MultiBay and Slimline 16X CD-RW Drive	**Dimensions** (HxWxD)	0.5 x 5.22 x 4.96 in/1.27 x 13.25 x 12.61 cm
	Weight	0.772 lb/ 350 grams
	Transfer rates	Write: Up to 10X (CD-RW) Write: Up to 16X (CD-R) Read: Up to 10X (CD-RW) Read: Up to 24X (CD-R)
	Controller	IDE
	Buffering	2MB
	Encoding method	EFM
	Format and ECC standard	Red, Yellow (Mode 1 and Mode 2), Orange, Green (Mode 2, Form 1 and Mode 2, Form 2) books
	Loading mechanism	Drawer load
	Logical recording format	UDF and ISO 9660
	Write methods	Disc at Once, Track at Once, Session at Once, Variable Packet, Fixed Packet
	Write verification	Automatic power control to dynamically adjust laser write power Data read-after-write verification by host-initiated procedures

Technical Specifications – Removable Storage

1.44-MB Diskette Drive	**Diskette Size**	3.5 in.	
	LED Indicators (front panel)	Green	
	Read/Write Capacity per diskette (high/low density)	1.44 MB/720 KB	
	Drive Supported	One	
	Drive Height	One-third	
	Drive Rotation	300 rpm	
	Transfer Rate (high/low)	500/250 Kb/s	
	Bytes/Sector	512	
	Sectors/Track (high/low)	18/9	
	Tracks/Side (high/low)	80/80	
	Access Times	Track-to-Track (high/low)	3/6 ms
		Average (high/low)	169/94 ms
		Settling Time	15 ms
		Latency Average	100 ms
MultiBay and Slimline 1.44 MB Diskette Drive	**Dimensions** (L x W x H)	5.4 x 5.2 x 0.5 in/13.8 x 13.3 x 1.3 cm	
	Weight	0.57 lb/260g	
	Transfer Rates	250 to 500 Kb/sec	
	Media Supported	1.44 MB and 720 KB diskettes	
	Access Times	Track–to–track: 3 ms	
		Average: 79 ms	
		Settling time: 15 ms	
	Operating Conditions	Temperature: 41° to 122° F/5° to 50° C	
		Humidity: 20% to 80% RH	
USB Disk on Key	**Dimensions** (HxWxD)	0.9 x 0.6 x3.2inches(2.3 x 1.5 x 8.2 cm)	
	Weight	0.05 pounds (0.02 kg)	
	USB Specification	1.1	
	Transfer Rate	Read-1023 KB/Sec; Write-850 KB/Sec	
	Storage Media	Solid state flash memory, no moving parts	
	Power Supply	USB Bus-powered, no external power required	
	Capacity	8MB, 16MB, and 32MB	

Technical Specifications – Wireless Communications

Bluetooth MultiPort Module *(USDT only)*	**Form Factor**	Compaq ″MultiPort″
	Bluetooth	1.1 Compliant
	Dimensions	56 mm x 167 mm x 14 mm
	Weight	100 grams (maximum)
	Temperature	10° C to 40° C, Operating
		–20° C to 60° C, Non-operating
	Humidity	10 to 90% operating
		5 to 95% non operating
	Altitude	Operating 0 to 10,000 ft/3,048 m
		Non-operating 0 to 30,000 ft/9,144 m
	Plug and Play	USB 1.1 compliant
		Windows Plug and Play compliant
	Frequency Band	2,4000 to 2.4835 GHz
	Number of Available Channels	79 (1 MHz) available channels
	Data Rates and throughput	1 Mbps
		Synchronous Connection Oriented links up to 3, 64 kbps, voice channels
		Asynchronous Connection Less links 723.2kbps/57.6 Kb/s asymmetric or 433.9 kb/s symmetric
	Antenna type	Internally integrated within module (with special polarization diversity)
	Range	100 meters
	Profile Support	General Access Profile
		Service Discovery Application Profile
		Serial Port Profile
		Generic Object Exchange Profile
		File Transfer Profile
		Synchronization Profile
		Dial-Up Networking Profile
		LAN Access Profile
		Object Push Profile
	Usage Models	Service Discovery (determine what Bluetooth devices are within range and support authorization).
		Synchronization:
		PDAs to PCs
		Portable to Desktop
		File Transfer:
		File and directory browsing and navigation on another Bluetooth device.
		File copying
		Object manipulation – including add, delete, create new folders etc.
		Wireless link to Corporate LAN using several Bluetooth devices sharing the same Access Point:
		Corporate email, network neighborhood, access to LAN applications, file transfer, ftp, Internet browsing, etc, using TCP/IP
		Wireless link to WAN thru cell phone
		GSM/SMS, PCS, PHS, DECT, RAM, ARDIS, CDPD, etc.
		Agnostic to WAN technology
		Send/receive SMS messages
		Wireless link to Printer
		Adhoc peer to peer networking (two computers) or Personal Area Networking (PAN) using NDIS (<7 computers).
		Adhoc Bluetooth Pico-networking (point to multi-point)
		Object Push – Business card or appointment exchange

Technical Specifications – Wireless Communications

Bluetooth MultiPort Module *(USDT only) (continued)*	**Transmit Power**	<20 dBM (Bluetooth Class 1)
	Receive Sensitivity	Better than –70 dBM at 0.1%raw bit error rate
	Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves
	Security	Full support of Bluetooth Security Provisions
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Points Required)
	Power Requirement	Peak <1500mW Average <500mW Standby <250mW
	Power Management	Windows ACPI,and USB Bus Support Keystrokes Fn+F2 Power On/Off control Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
	Protocols Supported	TCP/IP IPX/SPX UDP
	LED Activity	Solid Blue LED – On LED Off – Power Off
	Certifications	All necessary regulatory approvals for countries we support including FCC (47 CFR) Part 15C, Section 15.247&15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL,CSA, and CE Mark

Technical Specifications – Wireless Communications

802.11b MultiPort Module *(USDT only)*	**Form Factor**	Compaq "MultiPort"
	Weight	100 grams (maximum)
	Operating Temperature	–10° C to 65° C, operating
	Storage Temperature	–40° C to 80° C, non-operating
	Humidity	10 to 90% operating 5 to 95% non operating
	Altitude	15,000 feet, operating 40,000 feet, non-operating
	Plug and Play	USB 1.1 compliant Windows Plug and Play compliant
	RF Network Standard	IEEE 802 Part 11b (802.11b)
	Frequency Band	2,4000 to 2.4835 GHz 2,4465 to 2.4835 GHz (France) 2,4000 to 2,4697 GHz (Japan)
	Number of Selectable Sub-channels	Worldwide Certification United States (FCC) 11 France (FR) 4 Japan (JP) 14 Other countries 13
	Data Rates	1, 2, 5.5, 11 Mbps
	Antenna type	Internally integrated within module (with special polarization diversity)
	WEP Security	64 bit encryption keys compliant to IEEE 802.11 128 bit encryption key compliant to IEEE 802.11 Ability to enter keys manually or via pass-phrase
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Points Required)
	Modulation Technique	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK
	Receiver Sensitivity – Bit Error Rate (1E-5)	11 Mbps: -85 dBm 5.5 Mbps: -87 dBm 2 Mbps: -91 dBm 1 Mbps: -94 dBm
	Maximum Receive Level	–4 dBm
	Output Power (approx)	18 dBM
	Operating Voltage	5V power operation
	Power Management	Keystroke Fn+F2 Power On/Off control
	Power Consumption	Transfer mode: <600 mA, maximum Receive mode: >400 mA, maximum Standby 1mA maximum
	Transmit Power	10 to 100mW. It is preferable to have the user configurable output power to save battery life for laptop users or in high AP coverage areas.
	Power Saving Option	802.11 Compliant Power Saving Power Saving Mode selectable through the configuration utility ACPI compliant power management
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK

802.11b MultiPort Module
(USDT only)
(continued)

Protocols Supported	TCP/IP IPX/SPX UDP
LED Activity	Flashing LED – AP Search Mode Solid LED – On LED Off – Power Off

Throughput, Data Rate and Operating Distance

Throughput	Data Rate	Operating Distance
> 4.5 Mbps	11 Mbps	• 1000 feet – Open sight • 100 feet – Closed space (Steel Space)
>2 Mbps	5.5 Mbps	• 1100 feet – Open sight • 200 feet – Closed space (Steel Space)
>700 Kbps	1 Mbps	• 1200 feet – Open sight • 300 feet – Closed space (Steel Space)

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